NATURAL HISTORY ESSAYS

by
Charles Waterton

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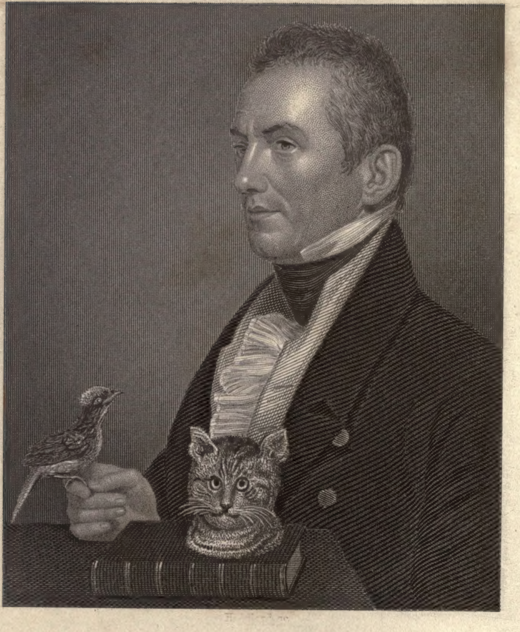

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Charles Waterton.

in his 42nd year.

From the Original Painting by Charles Wilson Peale, Esq.

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NATURAL HISTORY.

ESSAYS

BY

CHARLES WATERTON.

EDITED, WITH A LIFE OF THE AUTHOR,

BY

NORMAN MOORE, B.A.

ST. CATHARINE'S COLLEGE, CAMBRIDGE.

With Portrait and Illustrations.

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PREFACE.

Waterton once remarked to me that the naturalist, as well as the poet, might be said to be born, not made. An examination of the works on Natural History, and of the proceedings of zoological societies, confirms this opinion. The number of writers is great, but the permanent value of the productions is small, and bears about the same proportion to their bulk that a phial of attar of roses does to the bushels of flowers from which it is extracted. Many pursue science as a means of accumulating wealth, more, perhaps, as a ladder to notoriety. The former class cannot stop to consider details and arguments which will not yield a pecuniary return. The latter live in fear of being forestalled, and publish half-made observations and crude theories, lest some other competitor in the race of vanity should snatch from them the applause. They frequently attain the riches or the celebrity for which they strive. Their reputation is great for a time, but its decay is as rapid as its growth, and a few years after their death their works sleep like the authors—in dust.

This is so usual a result, that some persons have supposed this ephemeral quality to be an inherent disadvantage of scientific work. But the conclusion is mistaken. Science, pursued for its own sake, with patient research and prolonged thought, will always yield dis-

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coveries that will descend to succeeding generations. It is because Waterton belongs to that select body of men who have studied nature with no other object than to find out truth, that his works are valuable and will endure. His observations are so accurate that they delight the profoundest philosopher, and so simply described, that the least learned can understand them. Most of these essays might be read with profit even in village schools. They would open the eyes of the children to the treasures of the fields, and would teach them humanity to bird, beast, and reptile.

Although the naturalist be born, not made, still the history of human knowledge shows that the more generally a subject is studied, the more abundantly will latent genius be drawn forth. When architecture was the pursuit of a vast number of cultivated minds throughout Europe, the Gothic cathedrals were the result. In our own century, a similar concentration of thought upon mechanics has been productive of no less astonishing effects. And probably when scientific education has spread through the land, Watertons and Whites will not be so scarce as they are now.

To walk with Waterton in his beautiful park was one of the greatest delights I have experienced. I hope that the reader may enjoy a kindred pleasure by walking in the fields with these essays in his mind, and watching the sights which Waterton describes.

ST BARTHOLOMEW'S HOSPITAL,
November 1870.

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LIFE OF THE AUTHOR.

In the year 1837, Waterton prefixed to his first series of Essays in Natural History an account of such of his travels and adventures as are not mentioned in the "Wanderings in South America," and he continued the narrative up to the year 1857 in the second and third series of Essays. The larger part of this autobiography is incorporated in the present Memoir. Waterton's sketch, like the man, was unpretentious. He makes no boast, claims no discoveries, and demands no supremacy, but gives a simple chronicle of the interesting events of his life. My object in my additions is threefold:—to complete the story of his career; to describe the attainments and work of a naturalist, the first of his own time, and in no age surpassed; and, lastly, to preserve some of the traits of a character so rare and beautiful, that to allow the memory of it to drop unrecorded into the past would be to rob the world of a precedent which it cannot afford to lose.

> "Such a man
> Might be a copy to these younger times,
> Which, followed well, would demonstrate them now
> But goers backward."*

Charles, the eldest son of Thomas and Anne Waterton, was born in 1782. To avoid, perhaps, the notice which the anniversary would have occasioned, Waterton would never tell the day of his birth, though his friends knew that it was near the beginning of summer In the year 1864 he asked his sisters-in-law, Miss Edmonstone and Miss Helen Edmonstone, to come and see a stone cross which he had put up between two fine old oaks in a distant part of Walton Park. He said he especially wished them to come that day, which was the 3d of June. He rowed his sisters-in-law in his boat to the far end of the lake which surrounds Walton Hall, and when they arrived at the spot, he told them he intended to be buried there, and put his arms round the cross. "Squire," said Miss Edmonstone in Italian, for there was a man at work within hearing, "it is your birthday." He smiled, and bowed assent. Thus it came to be known that he was born on the 3d of June.

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* "All's Well that Ends Well," Act i., sc. 2.

Waterton's father was fond of out-door natural history and of field-sports. He was also a good scholar, and though prevented by the penal laws against Roman Catholics from holding even the office ot a magistrate, he had a high position among the gentlemen of his county. Mrs Waterton, according to the testimony of those who knew her, was a lady of more than ordinary dignity and judgment. She early and successfully taught her children high principles and scrupulous conduct. They retained, throughout their lives, a loving recollection of how much they were indebted to her; and to the end of his days her eldest son would speak of her and her deeds with affectionate reverence. Waterton has related his descent in "Some Account of the Writer of the following Essays, by Himself:"—

"I think I have seen in a book, but I forget which just now, that, when we read a work, we generally have a wish to see the author's portrait, or, at least, to know something of him.* Under this impression, I conceive that a short account of myself will not be wholly uninteresting to the reader, who, it is to be hoped, will acquit me of egotism, as I declare, in all truth, that I write these Memoirs with no other object in view than that of amusing him.

"I was born at Walton Hall, near Wakefield, in the county of York, some five-and-fifty years ago. This tells me that I am no chicken; but, were I asked how I feel with regard to the approaches of old age, I should quote Dryden's translation of the description which the Roman poet has given us of Charon:—

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* The book which Waterton had forgotten was "The Spectator," No. 1.:—"I have observed that a reader seldom peruses a book with pleasure till he knows whether the writer of it be a black or a fair man, of a mild or choleric disposition, married or a bachelor, with other particulars of the like nature, that conduce very much to the right understanding of an author."—[Ed.]

> 'He seemed in years, yet in his years were seen
> A vernal vigour and autumnal green.'

In fact, I feel as though I were not more than thirty years old. I am quite free from all rheumatic pains; and am so supple in the joints that I can climb a tree with the utmost facility. I stand six feet high, all but half an inch. On looking at myself in the glass, I can see at once that my face is anything but comely: continual exposure to the sun, and to the rains of the tropics, has furrowed it in places, and given it a tint which neither Rowland's Kalydor nor all the cosmetics on Belinda's toilette would ever be able to remove. My hair, which I wear very short, was once of a shade betwixt brown and black: it has now the appearance as though it had passed the night exposed to a November hoar-frost. I cannot boast of any great strength of arm; but my legs, probably by much walking, and by frequently ascending trees, have acquired vast muscular power; so that, on taking a view of me from top to toe, you would say that the upper part of Tithonus has been placed upon the lower part of Ajax. Or to speak zoologically, were I exhibited for show at a horse-fair, some learned jockey would exclaim, He is half Rosinante, half Bucephalus.

"I have preferred to give this short description of myself by the pen, rather than to have a drawing taken by the pencil, as I have a great repugnance to sit to an artist; although I once did sit to the late Mr Peale of Philadelphia, and he kept my portrait for his museum. Moreover, by giving this description of myself, it will prevent all chance in future of the nondescript's* portrait in the 'Wanderings' being taken for my own.†

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* "A late worthy Baronet in the North Riding of Yorkshire, having taken up the 'Wanderings,' and examined the representation of the nondescript with minute attention, 'Dear me!' said he, as he showed the engraving to his surrounding company, 'what a very extraordinary-looking man Mr Waterton must be!'"

† Since his death two busts of Waterton have been executed, one by Mr Waterhouse Hawkins, the other by Mr Henry Ross. The former represents him in a coat and buttoned-up waistcoat,—a fashion which he never adopted. It gives a true idea of the general aspect of his head and the shape of his forehead, but the

"The poet tells us, that the good qualities of man and of cattle descend to their offspring. '*Fortes creantur fortibus et bonis.*' If this holds good, I ought to be pretty well off, as far as breeding goes; for, on the father's side, I come in a direct line from Sir Thomas More, through my grandmother; whilst by the mother's side I am akin to the Bedingfelds of Oxburgh, to the Charltons of Hazelside, and to the Swinburnes of Capheaton. My family has been at Walton Hall for some centuries. It emigrated into Yorkshire from Waterton, in the island of Axeholme in Lincolnshire, where it had been for a very long time. Indeed, I dare say I could trace it up to Father Adam, if my progenitors had only been as careful in preserving family records as the Arabs are in recording the pedigree of their horses; for I do most firmly believe that we are all descended from Adam and his wife Eve, notwithstanding what certain self-sufficient philosophers may have advanced to the contrary. Old Matt Prior had probably an opportunity of laying his hands on family papers of the same purport as those which I have not been able to find; for he positively informs us that Adam and Eve were his ancestors:—

> 'Gentlemen, here, by your leave,
>   Lie the bones of Matthew Prior,
> A son of Adam and of Eve:
>   Can Bourbon or Nassau go higher?'

Depend upon it, the man under Afric's burning zone, and he from the frozen regions of the North, have both come from the same stem. Their difference in colour and in feature may be traced to this: viz., that the first has had too much, and the second too little, sun.

"In remote times, some of my ancestors were sufficiently notorious to have had their names handed down to posterity. They fought at Cressy, and at Agincourt, and at Marston Moor. Sir Robert Waterton was Governor of Pontefract Castle, and had charge of King Richard II. Sir Hugh Waterton was executor to his Sovereign's will, and guardian to his daughters. Another ancestor was sent into France by the King, with orders to contract a royal marriage. He

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mouth is very unlike, and the whole is too tame. Mr Ross's bust leaves the throat and chest bare. It has more vigour than that of Mr Hawkins, but both sculptors have failed to catch the true expression, and Waterton's saint-like and love-inspiring smile will be preserved only in the minds of those who knew him.—[Ed.]

was allowed thirteen shillings a day for his trouble and travelling expenses. Another was Lord Chancellor of England, and preferred to lose his head rather than sacrifice his conscience. Another was Master of the Horse, and was deprived both of his commission and his estate* on the same account as the former. His descendants seemed determined to perpetuate their claim to the soil; for they sent a bailiff once in every seven years to dig up a sod on the territory. I was the first to discontinue this septennial act, seeing law and length of time against us.

"Up to the reign of Henry VIII. things had gone on swimmingly for the Watertons; and it does not appear that any of them had ever been in disgrace:

—— 'Neque in his quisquam damnatus et exsul.'

But, during the sway of that ferocious brute, there was a sad reverse of fortune:—

'Ex illo fluere, ac retro sublapsa referri,
Spes Danaum.'

'From thence the tide of fortune left their shore,
And ebbed much faster than it flowed before.'

The cause of our disasters was briefly this:—The King fell scandalously in love with a buxom lass, and he wished to make her his lawful wife, notwithstanding that his most virtuous Queen was still alive. Having applied to the head of the Church for a divorce, his request was not complied with; although Martin Luther, the apostate friar and creed-reformer, had allowed the Margrave of Hesse to have two wives at one and the same time. Upon this refusal, our royal goat became exceedingly mischievous: '*Audax omnia perpeti rui per vetitum nefas*." Having caused himself to be made head of the Church, he suppressed all the monasteries, and squandered their revenues amongst gamesters, harlots, mountebanks, and apostates. The poor, by his villanies, were reduced to great misery, and they took to evil ways in order to keep body and soul together. During this merciless reign, 72,000 of them were hanged for thieving.

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* Methley Park was his seat.—[ED.]

"In good* Queen Mary's days, there was a short tide of flood in our favour; and Thomas Waterton of Walton Hall was High Sheriff of York. This was the last public commission held by our family. The succeeding reigns brought every species of reproach and indignity upon us. We were declared totally incapable of serving our country; we were held up to the scorn of a deluded multitude, as damnable idolators; and we were unceremoniously ousted out of our tenements: our only crime being a conscientious adherence to the creed of our ancestors, professed by England for nine long centuries before the Reformation. So determined were the new religionists that we should grope our way to heaven along the crooked and gloomy path which they had laid out for us, that they made us pay twenty pounds a month, by way of penalty, for refusing to hear a married parson read prayers in the Church of Sandal Magna; which venerable edifice had been stripped of its altar, its crucifix, its chalice, its tabernacle, and all its holy ornaments, not for the love of God, but for the private use and benefit of those who had laid their sacrilegious hands upon them. My ancestors acted wisely. I myself would rather run the risk of going to hell with St Edward the Confessor, Venerable Bede, and St Thomas of Canterbury, than make a dash at heaven in company with Harry VIII., Queen Bess, and Dutch William.

"Oliver Cromwell broke down our drawbridge; some of his musket-balls remaining in one of the old oaken gates, which are in good repair to this day. Not being able to get in, he carried off everything in the shape of horses and cattle that his men could lay their hands on.

"Dutch William enacted doubly severe penal laws against us. During the reign of that sordid foreigner, some little relaxation was at fast made in favour of Dissenters; but it was particularly specified that nothing contained in the act should be construed 'to give ease to any Papist or Popish recusant.'

"My grandfather had the honour of being sent prisoner to York, a short time before the battle of Culloden, on account of his well-known attachment to the hereditary rights of kings, in the person of poor Charley Stuart, who was declared a pretender! On my grandfather's release, he found that his horses had been sent to Wakefield, there to be kept at his own expense. But the magistrates very graciously allowed him to purchase a horse for his own riding, provided the price of it was under five pounds.*

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* "Camden, the *Protestant* historian, says that Queen Mary was a Princess never sufficiently to be commended of all men for pious and religious demeanour, her commiseration towards the poor," &c.

"My own father paid double taxes for some years after he came to the estate.†

"Times are better for us now: but I, individually, am not much better for the change; for I will never take Sir Robert Peel's oath. In framing that abominable oath, I don't believe that Sir Robert cared one fig's end whether the soul of a Catholic went up, after death, to the King of Brightness, or descended to the King of Brimstone: his only aim seems to have been to secure to the Church by law established the full possession of the loaves and fishes. But, as I have a vehement inclination to make a grab at those loaves and fishes, in order to distribute a large proportion of them to the poor of Great Britain, who have an undoubted claim to it, I do not intend to have my hands tied behind me: hence my positive refusal to swallow Sir Robert Peel's‡ oath. Still, take it or refuse it, the new dynasty may always make sure of my loyalty, even if any of our old line of kings were still in existence; for—

'The illustrious house of Hanover,
And Protestant succession,
To these I have allegiance sworn,
While they can keep possession.'

"When I was not quite eight years old, I had managed to climb upon the roof of an out-house, and had got to a starling's nest under one of the slates. Had my foot slipped, I should have been in as bad a plight as was poor Ophelia in the willow-tree, when the 'envious sliver broke.' The ancient housekeeper—mentioned in the account of the barn-owl—had cast her rambling eye upon me. Seeing the danger I was in, she went and fetched a piece of gingerbread, with which she lured me down, and then she seized me as though I had been a malefactor.

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* An act passed in the reign of William III. prohibited a Roman Catholic from keeping a horse worth more than five pounds. The object was to deprive the Roman Catholics of chargers which could be used for military purposes in the event of a rising.—[Ed.]

† Roman Catholics were compelled by Act of Parliament to pay double land-tax.—[Ed.]

‡ "'I do hereby disclaim, disavow, and solemnly abjure any intention to subvert the present Church Establishment within this realm,' &c. (See Sir Robert Peel's oath.)"

"At nine years old, I was sent to a school in the North of England, where literature had scarcely any effect upon me, although it was duly administered in large doses by a very scientific hand. But I made vast proficiency in the art of finding birds' nests. It was judged necessary by the master of the school to repress this inordinate relish for ornithological architecture, which, in his estimation, could be productive of no good. Accordingly, the birch-rod was brought to bear upon me when occasion offered; but the warm application of it, in lieu of effacing my ruling passion, did but tend to render it more distinct and clear. Thus are bright colours in crockeryware made permanent by the action of fire; thus is dough turned into crust by submitting it to the oven's heat."

The childhood of our naturalist was spent at Walton Hall. He had a sister of whom he was very fond, and they passed many "sweet childish days" in the meadows and under the trees of Walton. Their sports and their converse were no doubt not unlike those of another true lover of nature:—

"Oh! pleasant, pleasant were the days,
The time when, in our childish plays,
My sister Emmeline and I
Together chased the butterfly!
A very hunter did I rush
Upon the prey: with leaps and springs
I followed on from brake to bush;
But she, God love her! feared to brush
The dust from off its wings." *

One day an incident occurred which is worth mentioning, because it shows how an unpleasant impression, received at a very early period, may permanently reverse the natural tastes of man. The merry

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* Wordsworth.

children had found a lark's nest in the grass near the foot of a tall poplar, which still stands opposite the east windows of Walton Hall. Charles, overflowing with fun, swallowed one of the eggs, shell and all. His sister, in an agony of terror lest her brother should be poisoned, ran off and told her mother of the dreadful occurrence. Mrs Waterton, not knowing what her son might have eaten, forthwith gave him a mustard emetic, and he could never afterwards endure the taste of mustard.

At ten years of age Waterton was sent to school, and seventy years afterwards, March 26, 1862, he wrote the recollections which follow of that early time:—

"Towards the close of the last century a Catholic school was founded at Tudhoe village, some four or five miles from the venerable city of Durham. The Reverend Arthur Storey, a profound Latin scholar, was the master. My father put me under Mr Storey's care about the year 1792. Mr Storey engaged a holy and benevolent priest, by name Robert Blacoe, to help him in the school. He was ill in health, having severely injured himself in his escape over the walls of Douai, at the commencement of the French Revolution. To this good priest succeeded another, the Reverend Joseph Shepherd. He was a very correct disciplinarian, and, one morning, whilst he was treating me to the unwelcome application of a birch-rod, I flew at the calf of his leg, and made him remember the sharpness of my teeth. I wish I had them now; but no one has a right to lament the loss when he is fourscore years of age. In the days of Mr Shepherd priests always wore breeches and worsted stockings; so these were no defence against the teeth of an enraged boy, writhing under a correctional scourge.

"But now, let me enter into the minutiæ of Tudhoe School. Mr Storey had two wigs, one of which was of a flaxen colour, without powder, and had only one lower row of curls. The other had two rows, and was exceedingly well powdered. When he appeared in the schoolroom with this last wig on, I knew that I was safe from the birch, as he invariably went to Durham, and spent the day there. But when I saw that he had his flaxen wig on, my countenance fell. He was in the schoolroom all day, and I was too often placed in a very uncomfortable position at nightfall. But sometimes I had to come in contact with the birch-rod for various frolics independent of school erudition. I once smarted severely for an act of kindness. We had a boy named Bryan Salvin, from Croxdale Hall. He was a dull, sluggish, and unwieldy lad, quite incapable of climbing exertions. Being dissatisfied with the regulations of the establishment, he came to me one Palm Sunday, and entreated me to get into the schoolroom through the window, and write a letter of complaint to his sister Eliza in York. I did so, having insinuated myself with vast exertion through the iron stanchions which secured the window; '*sed revocare gradum.*' Whilst I was thrusting might and main through the stanchions, on my way out,—suddenly, oh, horrible! the schoolroom door flew open, and on the threshold stood the Reverend Mr Storey—a fiery, frightful, formidable spectre! To my horror and confusion I drove my foot quite through a pane of glass, and there I stuck, impaled and imprisoned, but luckily not injured by the broken glass. Whilst I was thus in unexpected captivity, he cried out, in an angry voice, "So you are there, Master Charles, are you?" He got assistance, and they pulled me back by main force. But as this was Palm Sunday my execution was obligingly deferred until Monday morning.

"And thus I went on month after month, in sadness and in sunshine, in pleasure and in pain; the ordinary lot of adventurous schoolboys in their thorny path to the temple of erudition. Some time about the year '94 there came to Tudhoe four young grown-up men, to study for the Church. These four young men all happened to be endowed with giant appetites, but oily Mrs Atkinson, the housekeeper, thought that, now and then upon a pinch, they might struggle on with a short allowance. This was absolutely contrary to the law of nature; so they, seeing that I was a dashing and aspiring lad, it was arranged amongst us that I should cater for them surreptitiously, from time to time, under the cover of the night. Accordingly I stormed the larder, and filled my pockets full of bread and cheese, &c. My exertions were always successful, and my movements were never suspected, as I planned most cautiously during the day what I had to mature in the dead of night. In due time these four promising young men left Tudhoe, and were located at a place called Crook Hall, where they may be said to have been the foundations of the future college of Ushaw. I myself, too, consider that I have a right to claim a mite of merit, having contributed to the bodily support of those who laboured for Ushaw at its birth. Their task was that of giants in perpetual work, '*Tantæ molis erat Romanam condere gentem.*'

"But let us return to Tudhoe. In my time it was a peaceful, healthy, farming village, and abounded in local curiosities. Just on the king's highway, betwixt Durham and Bishop-Auckland, and one field from the school, there stood a public-house called the 'White Horse,' and kept by a man of the name of Charlton. He had a real gaunt English mastiff, half-starved for want of food, and so ferocious that nobody but himself dared to approach it. This publican had also a mare, surprising in her progeny; she had three foals, in three successive years, not one of which had the least appearance of a tail.

"One of Mr Storey's powdered wigs was of so tempting an aspect, on the shelf where it was laid up in ordinary, that the cat actually kittened in it. I saw her and her little ones all together in the warm wig. He also kept a little white and black bitch, apparently of King Charles's breed. One evening, as we scholars were returning from a walk, Chloe started a hare, which we surrounded and captured, and carried in triumph to oily Mrs Atkinson, who begged us a play-day for our success.

"On Easter Sunday Mr Storey always treated us to 'Pasche eggs.' They were boiled hard in a concoction of whin-flowers, which rendered them beautifully purple. We used them for warlike purposes, by holding them betwixt our forefinger and thumb with the sharp end upwards, and as little exposed as possible. An antagonist then approached, and with the sharp end of his own egg struck this egg. If he succeeded in cracking it, the vanquished egg was his; and he either sold it for a halfpenny in the market, or reserved it for his own eating. When all the sharp ends had been crushed, then the blunt ends entered into battle. Thus nearly every Pasche egg in the school had its career of combat. The possessor of a strong egg with a thick shell would sometimes vanquish a dozen of his opponents, all of which the conqueror ultimately transferred into his own stomach, when no more eggs with unbroken ends remained to carry on the war of Easter Week.*

"The little black and white bitch once began to snarl, and then to bark at me, when I was on a roving expedition in quest of hens' nests. I took up half a brick and knocked it head over heels. Mr Storey was watching me at the time from one of the upper windows; but I had not seen him, until I heard the sound of his magisterial voice. He beckoned me to his room there and then, and whipped me soundly for my pains.

"Four of us scholars stayed at Tudhoe during the summer vacation, when all the rest had gone home. Two of these had dispositions as malicious as those of two old apes. One fine summer's morning they decoyed me into a field (I was just then from my mother's nursery) where there was a flock of geese. They assured me that the geese had no right to be there; and that it was necessary we should kill them, as they were trespassing on our master's grass. The scamps then furnished me with a hedge-stake. On approaching the flock, behold the gander came out to meet me; and whilst he was hissing defiance at us, I struck him on the neck, and killed him outright. My comrades immediately took to flight, and on reaching the house informed our master of what I had done. But when he heard my unvarnished account of the gander's death, he did not say one single unkind word to me, but scolded most severely the two boys who had led me into the scrape. The geese belonged to a farmer named John Hey, whose son Ralph used to provide me with birds' eggs. Ever after when I passed by his house, some of the children would point to me and say, 'Yaw killed aur guise.'

"At Bishop Auckland, there lived a man by the name of Charles the Painter. He played extremely well on the Northumberland bagpipe, and his neighbour was a good performer on the flageolet. When we had pleased our master by continued good conduct, he would send for these two musicians, who gave us a delightful evening-concert in the general play-room, Mr Storey himself supplying an extra treat of fruit, cakes, and tea.

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* The practice of presenting children with stained eggs at Easter was once universal throughout Christendom. The egg combats at Tudhoe resembled the snail-shell contests which Southey says "he never saw or heard of" except at a school to which he was sent near Bristol. "The shells were placed against each other, point to point, and pressed till one was broken in. This was called conquering, and the shell which remained unhurt acquired value in proportion to the number over which it had triumphed."—[ED.]

"Tudhoe had her own ghosts and spectres, just as the neighbouring villages had theirs. One was the Tudhoe mouse, well known and often seen in every house in the village; but I cannot affirm that I myself ever saw it. It was an enormous mouse, of a dark brown colour, and did an immensity of mischief. No cat could face it; and as it wandered through the village, all the dogs would take off, frightened out of their wits, and howling as they ran away. William Wilkinson, Mr Storey's farming man, told me he had often seen it, but that it terrified him to such a degree, that he could not move from the place where he was standing.

"Our master kept a large tom-cat in the house. A fine young man, in the neighbouring village of Ferryhill, had been severely bitten by a cat, and he died raving mad. On the day that we got this information from Timothy Pickering, the carpenter at Tudhoe, I was on the prowl for adventures, and in passing through Mr Storey's back-kitchen, his big black cat came up to me. Whilst I was tickling its bushy tail, it turned round upon me, and gave me a severe bite in the calf of the leg. This I kept a profound secret, but I was quite sure I should go mad every day for many months afterwards.

"There was a blacksmith's shop leading down the village to Tudhoe Old Hall. Just opposite this shop was a pond, on the other side of the road. When any sudden death was to take place, or any sudden ill to befall the village, a large black horse used to emerge from it, and walk slowly up and down the village, carrying a rider without a head. The blacksmith's grandfather, his father, himself, his three sons, and two daughters, had seen this midnight apparition rise out of the pond, and return to it before the break of day. John Hickson and Neddy Hunt, two hangers-on at the blacksmith's shop, had seen this phantom more than once, but they never durst approach it. Indeed, every man and woman and child believed in this centaur-spectre, and I am not quite sure if our old master himself did not partly believe that such a thing had occasionally been seen on very dark nights.

"Young Timothy Pickering, the respectable carpenter of the village (he who had married Miss Ord, the papermaker's daughter), had a cat of surprising beauty. I once made some verses on this cat, and as Mr Meynell, the lay tutor, fancied that I alluded to himself, he whipped me without any kind of trial. Timothy Pickering had an assistant carpenter, by name Taylor. He had a wen over his eye as large as a pigeon's egg.

"As you went down the road below the blacksmith's, you were close on the village tailor's cottage. His name was Lawrence Thompson, but everybody called him Low Thompson. He had lost half of the fore-finger of his right hand, was a facetious and talkative fellow, and could sing a good song. He would now and then get an evening invitation to the school, where he sang the popular song of the 'White Hare;' but I remember only one stanza of it, viz.—

'Squire Salvin rode up to the hill,
And he damned them for they were all blind.
Do you see how my bitch, Cruel, leads?
Do you see how she leaves them behind?'

"Opposite Low Thompson's cottage, across the road, stood Tudhoe Old Hall, tenanted by a family named Patterson. A wall flanked the house, and close to this wall there grew some ancient sycamore trees, with holes in them, frequented by starlings. I used to climb these trees and take the starlings' nests. Formerly a Squire Salvin of the Croxdale family used to live at this Old Hall, and here he kept his harrier hounds.

"The vicinity of Tudhoe produced vast quantities of hazel-nuts; we were allowed to go in quest of them, and to bring off as many nuts as we could stow away upon our persons. The nut-season always closed with a recreation-evening at the school. It was termed Nut-crack-night, and Low Thompson invariably honoured the festival with his smirking presence, never forgetting the song of the 'White Hare.'

"Old Joe Bowren (the same person noticed in my autobiography), of vast bodily bulk, came to Tudhoe School about this time, from Sir John Lawson's at Brough Hall. We soon became hand in glove.

He performed the duties of butcher, pig-server, scrub, and brewer; and ultimately migrated to Stonyhurst, where he exercised his vocation with great zeal and success, and there we renewed our valuable acquaintance.

"We had a Scottish boy with two thumbs on one hand. Lady Livingstone frequently came to see her two boys, David and Francis. Once she brought with her an East Indian officer, who was generally called Tiger Duff. You shall hear why. One afternoon when a party of officers were walking alongside of a jungle, a Bengal tiger sprang at the Colonel, knocked him down, and tore his mouth to the ear. They all ran away, leaving the poor Colonel to his fate. He recovered his senses whilst the tiger was standing over him. Drawing his dagger with great caution, he drove it quite through the animal's heart, and thus he saved his own life. Seeing me stare at his face, he most kindly allowed me to examine the scar.

"Close to us was a field where Mr Storey's cattle used to feed. It was called the Little Garth. One morning two of the bigger boys coaxed me to get up on one of these cows, promising that they would stand by my side. When I had got my seat, the beggars ran away. Off went the cow at full speed. I kept my seat for a time, and then I flew clear over her head, not much worse for the fall.

"Mr Storey kept one bay mare, admirably calculated to convey him backward and forwards to the city of Durham on business, and occasionally to Bishop Auckland. He was very frugal in his establishment, apart from the school, saving all he could spare to comfort the poor. Bishop Gibson, a learned and holy prelate, was his guest, together with his faithful servant Thomas, for more than a year and a half whilst I was there.

"We had a smart and handsome dancing-master, named Forsett, and so active that he sprang up and down like a parched pea on a sounding-board. The first dance that he taught us was to the tune of 'The Lass of Richmond Hill.' The name of our drawing-master in my time was Pether—a fair artist enough in his way. We were taught military exercise by Serjeant Newton from Durham. He was a magnificent soldier, every inch of him; possessing brain, spirit, and tact enough to command a regiment on a field of battle.

"My first adventure on the water made a lasting impression, on account of the catastrophe which attended it. There was a large horsepond, separated by a hedge from the field which was allotted to the scholars for recreation-ground. An oblong tub, used for holding dough before it was baked, had just been placed by the side of the pond. I thought that I should like to have an excursion on the deep; so taking a couple of stakes out of the hedge, to serve as oars, I got into the tub, and pushed off—

——' Ripæ ulterioris amore.'

I had got above half way over, when, behold, the master, and the late Sir John Lawson of Brough Hall, suddenly rounded a corner and hove in sight. Terrified at their appearance, I first lost a stake, and then my balance: this caused the tub to roll like a man-of-war in a calm. Down I went to the bottom, and rose again covered with mud and dirt. '*Terribili squalore Charon.*' My good old master looked grave, and I read my destiny in his countenance: but Sir John said that it was a brave adventure, and he saved me from being brought to a court-martial for disobedience of orders, and for having lost my vessel.* But it is time to cease on school affairs; fully aware that too much pudding chokes a dog. Let us visit the surrounding country.

"Tudhoe has no river, a misfortune '*valde deflendus.*' In other respects the vicinity was charming; and it afforded an ample supply of woods and hedgerow trees to insure a sufficient stock of carrion crows, jackdaws, jays, magpies, brown owls, kestrels, merlins, and sparrow-hawks, for the benefit of natural history and my own instruction and amusement.

"Betwixt Tudhoe School and Ferry Hill, there stood an oaken post, very strong, and some nine feet high. This was its appearance in my days, but formerly it must have been much higher. It was known to all the country round by the name of Andrew Mills' stob. We often went to see it, and one afternoon whilst we were looking at it, an old woman came up, took her knife from her pocket, and then pared off a chip, which she carefully folded up in a bit of paper. She said it was good for curing the toothache. The history of this time-beaten stob is sad and terrible. A neighbouring farmer and his wife had gone a tea-drinking one summer afternoon, leaving six children behind. Andrew Mills, the servant-man, fancied he would become heir of the farmer's property if the children were only got out of the way. So he cut all their throats, and his body was hung in chains on this noted stob. The poor children were all buried in one grave in a neighbouring churchyard. The tombstone tells their melancholy fate, and the epitaph ends thus :—

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* Wordsworth's poem, "The Blind Highland Boy," was written on an adventurous lad who embarked on Loch Leven in a washing-tub. Wordsworth substituted a turtle-shell for the unpoetical tub, "in deference," he says, "to the opinion of a friend."—[Ed.]

> 'Here we sleep : we all were slain ;
> And here we rest, till we rise again.'

I suspect that the remains of this oaken post have long since mouldered away. I have not been there for these last seventy years, and probably if I went thither, I should not be able to find the site of this formerly notorious gibbet.

"Here I close my desultory reminiscences of Tudhoe and its neighbourhood, penned down hastily at the request of my dear cousin, George Waterton, now a student in divinity at Ushaw College.

"On my return home from this school, I was once within an ace of closing all accounts here below for ever. About one o'clock in the morning, Monsieur Raquedel, the family chaplain, thought that he heard an unusual noise in the apartment next to his bedroom. He arose, and on opening the door of the chamber whence the noise had proceeded, he saw me in the act of lifting up the sash ; and he was just in time to save me from going out at a window three stories high. I was fast asleep, and as soon as he caught hold of me, I gave a loud shriek. I thought I was on my way to a neighbouring wood, in which I knew of a crow's nest."

There is one more anecdote of his Tudhoe days which deserves preservation. As Waterton was walking up a lane, he met an old woman, who asked him for charity. He had lately spent his last pocket-money, and had not a single halfpenny left. The only thing that he could give was a fine darning-needle, which he kept in the hem of his jacket, and which was of the greatest value to him in blowing eggs. Long years afterwards, towards the end of a life full of quiet acts of kindness, he once mentioned this gift of the darning-needle as the most meritorious act of charity he had ever done.

Tudhoe School, having migrated a few miles, has now grown into a great college. Its professors, in time of need, showed that they preferred learning to emolument, and their disinterestedness has met the reward it deserved. The original building has become the centre of a group; the museum and the library are increasing: the college bids fair to expand into a university. Such is the present condition of Ushaw. In 1796, however, it was little more than a preparatory school, so Waterton left it and proceeded to more advanced studies at Stonyhurst, a handsome country-house, which had lately been turned into a college. Mr Weld, of Lulworth Castle, had made it over to some Jesuits, whom the troubles of the times had driven from their college at Liege. Waterton was one of their first pupils in their new home. The Jesuits have always been celebrated for the astuteness with which they discover and cultivate the bent of young minds. Waterton profited in no small degree by the wisdom of the Order. His instructors encouraged as far as possible his love for Natural History. At the same time, they gave him a taste for literature. Thus his time passed gaily at Stonyhurst, and during the six years he stayed there, he laid up a store of knowledge, and went through a training which did much to make his whole life pleasant.

"My master was Father Clifford, a first cousin of the noble Lord of that name. He had left the world, and all its alluring follies, that he might serve Almighty God more perfectly, and work his way with more security up to the regions of eternal bliss. After educating those intrusted to his charge with a care and affection truly paternal, he burst a blood-vessel, and retired to Palermo for the benefit of a warmer climate. There he died the death of the just, in the habit of St Ignatius.

"One day, when I was in the class of poetry, and which was about two years before I left the college for good and all, he called me up to his room. 'Charles,' said he to me, in a tone of voice perfectly irresistible, 'I have long been studying your disposition, and I clearly foresee that nothing will keep you at home. You will journey into far distant countries, where you will be exposed to many dangers. There is only one way for you to escape them. Promise me that, from this day forward, you will never put your lips to wine, or to spirituous liquors.' 'The sacrifice is nothing,' added he; 'but, in the end, it will prove of incalculable advantage to you.' I agreed to his enlightened proposal; and from that hour to this, which is now about nine-and-thirty years, I have never swallowed one glass of any kind of wine or of ardent spirits.

"At Stonyhurst there are boundaries marked out to the students, which they are not allowed to pass; and there are prefects always pacing to and fro within the lines to prevent any unlucky boy from straying on the other side of them. Notwithstanding the vigilance of these lynx-eyed guardians, I would now and then manage to escape, and would bolt into a very extensive labyrinth of yew and holly trees close at hand. It was the chosen place for animated nature. Birds, in particular, used to frequent the spacious inclosure, both to obtain food and to enjoy security. Many a time have I hunted there the foumart and the squirrel. I once took a cut through it to a neighbouring wood, where I knew of a carrion crow's nest. The prefect missed me; and, judging that I had gone into the labyrinth, he gave chase without loss of time. After eluding him in cover for nearly half an hour, being hard pressed, I took away down a hedgerow. Here (as I learned afterwards) he got a distant sight of me; but it was not sufficiently distinct for him to know to a certainty that I was the fugitive. I luckily succeeded in reaching the outbuildings which abutted on the college, and lay at a considerable distance from the place where I had first started. I had just time to enter the postern-gate of a pig-sty, where, most opportunely, I found old Joe Bowren, the brewer, bringing straw into the sty. He was more attached to me than to any other boy, for I had known him when I was at school in the North, and had made him a present of a very fine terrier. 'I 've just saved myself, Joe,' said I; 'cover me up with litter.' He had barely complied with my request, when in bounced the prefect by the same gate through which I had entered. 'Have you seen Charles Waterton?' said he, quite out of breath. My trusty guardian answered, in a tone of voice which would have deceived anybody, 'Sir, I have not spoken a word to Charles Waterton these three days, to the best of my knowledge.' Upon this the prefect, having lost all scent of me, gave up the pursuit, and went his way. When he had disappeared, I stole out of cover, as strongly perfumed as was old Falstaff when they had turned him out of the buck-basket. Once I had gone into the labyrinth to look into a magpie's nest, which was in a high hollow tree; and hearing the sound of voices near, I managed to get a resting-place in the tree just over the nest, and there I squatted, waiting the event. Immediately, the President, two other Jesuits, and the present Mr Salvin of Croxdale Hall, passed close under the tree without perceiving me.

"The good Fathers were aware of my predominant propensity. Though it was innocent in itself, nevertheless it was productive of harm in its consequences, by causing me to break the college rules, and thus to give bad example to the community at large. Wherefore, with a magnanimity and excellent exercise of judgment, which are only the province of those who have acquired a consummate knowledge of human nature, and who know how to turn to advantage the extraordinary dispositions of those intrusted to their care, they sagaciously managed matters in such a way as to enable me to ride my hobby to a certain extent, and still, at the same time, to prevent me from giving bad example. As the establishment was very large, and as it contained an abundance of prog, the Hanoverian rat, which fattens so well on English food, and which always contrives to thrust its nose into every man's house where there is anything to be got, swarmed throughout the vast extent of this antiquated mansion. The abilities which I showed in curtailing the career of this voracious intruder did not fail to bring me into considerable notice. The cook, the baker, the gardener, and my friend old Bowren, could all bear testimony to my progress in this line. By a mutual understanding, I was considered ratcatcher to the establishment, and also fox-taker, foumart-killer, and crossbow-charger at the time when the young rooks were fledged. Moreover, I fulfilled the duties of organ-blower and football-maker with entire satisfaction to the public. I was now at the height of my ambition.

——'Poteras iam, Cadme, videri
. . . felix.'

I followed up my calling with great success. The vermin disappeared by the dozen; the books were moderately well-thumbed; and, according to my notion of things, all went on perfectly right.

"When I had finished my rhetoric, it was my father's wish that I should return home. The day I left the Jesuits' college was one of heartfelt sorrow to me. Under Almighty God and my parents, I owe everything to the Fathers of the Order of St Ignatius. Their attention to my welfare was unceasing, whilst their solicitude for my advancement in virtue and in literature seemed to know no bounds. The permission which they granted me to work in my favourite vocation, when it did not interfere with the important duties of education, enabled me to commence a career which, in after times, afforded me a world of pleasure in the far distant regions of Brazil and Guiana. To the latest hour of my life I shall acknowledge, with feelings of sincerest gratitude, the many acts of paternal kindness which I so often received at the hands of the learned and generous Fathers of Stonyhurst College, '*Præsidium et dulce decus meum.*'

"After leaving this 'safe retreat of health and peace,' I journeyed homewards to join my father; and I spent a year with him, '*Gaudens equis canibusque et aprici gramine campi.*' He was well described by the Roman poet:—

'Beatus ille, qui procul negotiis,
Ut prisca gens mortalium,
Paterna rura bobus exercet suis
Solutus omni fœnore.'

He had been a noted hunter in his early days; and, as he still loved in his heart to hear the mellow tones of the fox-hound, he introduced me particularly to Lord Darlington, whose elegant seat on horseback, and cool intrepidity in charging fences, made him the admiration of his surrounding company."

Fox-hunting was Waterton's delight, and he soon became preeminent among the celebrated horsemen of Yorkshire, and was esteemed the best rider in the hunt next to Lord Darlington. When an old man, he used sometimes to tell stories of his hunting-days to young fox-hunters, and always listened with pleasure to the account of a good run. One adventure had a most happy result. There was a coolness between the Watertons and a neighbouring family. The head of this family saw Waterton come over a hedge down into a little quarry which was on the other side. "Zounds! Mr Waterton," shouted the Baronet, amazed, and forgetting that they were not on speaking terms, "what a jump!" They talked together, the feud was at an end, and they rode home friends. Of the convivialities which in those times did so much to mar the good effects of fox-hunting, Waterton kept clear. He bore in mind the promise he had made at college, and used, when the chase was over, to decline all invitations, and ride straight home. Travelling, after a while took the place of fox-hunting.

"My father would every now and then say to me, with a gracious though significant smile on his countenance, '*Studium quid inutile tentas?*' And as my mother was very anxious that I should see the world, they took advantage of the short Peace of Amiens [1802], and sent me to Spain.

"Two of my maternal uncles, who had received brilliant educations, and were endowed with great parts, but who were not considered worthy to serve their country in any genteel or confidential capacity, unless they would apostatize from the faith of their ancestors, had deemed it prudent to leave their native land and retire to foreign climes. A Portuguese gentleman named Martinez, who in his travels through England had received great hospitality from Sir Henry Bedingfeld of Oxburgh, in Norfolk, invited the wanderers to Malaga, where they finally settled, and became naturalized Spaniards.

"I sailed from Hull in the month of November, with my younger brother (poor fellow! he died afterwards in Paumaron of the yellow fever), in the brig *Industry*, bound for Cadiz. The wind becoming adverse, we put into Margate Roads, and lay there for nine days. A breeze having sprung up from the northward, we went to sea again, in company with a Scotch brig which was going to Vigo, and we were within gun-shot of each other the next morning at daybreak. On the preceding night I had heard one of our own crew tell his comrade, that when he was ashore at Margate, a sailor from the Scotch brig had told him that their mate was in a conspiracy to murder the captain, and to run away with the vessel. I questioned our tar very particularly the following day, as the brig was not far off; and finding his account quite consistent, I went down into the cabin, and committed it to paper. Having inclosed it in a bottle, we ran alongside of the brig for Vigo, and hailed the captain. I then threw the bottle on the quarter-deck. The captain immediately took it up, and carried it below. He returned to the deck in a short time, and made us a very low bow; which, no doubt, was the safest way to express his gratitude for the favour which we had done to him. We parted company in a gale of wind at nightfall, and I could never learn anything afterwards of the brig, or of the fate of her commander.

"On our arrival at Cadiz, we found the town illuminated, and there were bull-fights in honour of royal nuptials. We accompanied Consul Duff to the amphitheatre. He was dressed in a brilliant scarlet uniform; and though he had cautioned us not to lose sight of him as soon as the entertainment should be finished, still my eyes wandered upon a thousand objects, and I most unfortunately missed him, just as we were departing from the amphitheatre. As there were hundreds of Spaniards in scarlet cloaks, it was probably on this account that the Consul had been particular in requesting us to keep him always in view. I walked up and down Cadiz till nearly midnight, without being able to speak one word of Spanish, and trying in vain to find the British Consul's house. At last, in utter despair, I resolved to stand still, and to endeavour to make out some passing Frenchman, or some American, by the light of the moon, which shone brilliantly upon the white houses on each side of the street. The first person whom I accosted luckily turned out to be a French gentleman. I told him that I was a stranger, and that I was benighted, and had lost my way. He most kindly took me to the Consul's house, which was a long way off.

"After staying a fortnight in Cadiz, we sailed through the Straits of Gibraltar, for Malaga in Andalusia, a province famous for its wine, its pomegranates, its oranges, and its melons.

"My uncles had a pleasant country-house at the foot of the adjacent mountains, and many were the days of rural amusement which I passed at it. The red-legged partridges abounded in the environs, and the vultures were remarkably large; whilst goldfinches appeared to be much more common than sparrows in this country During the spring, the quails and bee-eaters arrived in vast numbers from the opposite coast of Africa. Once when I was rambling on the sea-shore, a flock of a dozen red flamingoes passed nearly within gun-shot of me.

"At my uncles' house, I made the acquaintance of an English gentleman who had been staying with them for some time. I found his conversation very agreeable, and we made arrangements to go to Cadiz by land, taking Gibraltar in our way.

"It is a well-known fact that apes are found in no part of Europe except in Gibraltar. They inhabit the steepest parts of the mountain, and always prefer to be sheltered from the wind when it blows hard. I had letters of introduction to the Danish Consul, Mr Glynn. As good luck would have it, the wind changed to the eastward on the very morning on which the Consul had arranged to show us over the rock of Gibraltar. He said that the apes were sure to be on the move, as the change of wind would force them from their quarters; and actually, on our way up the mountain, we had a fair view of the apes on their passage. I counted from fifty to sixty of them; and an ape or two might be seen in the flock with a young one on its back. Æneas in his day reversed the thing, and carried an old animal—not a young one.

'Cessi, et sublato montem genitore petivi.'

"We visited Algesiras, and there I saw the *Hannibal* seventy-four aground. Colonel Lyon of St. Roque gave us a full account of her misfortune. This brave old Irish gentleman, aware that there would be no promotion for him in his own country, on account of his adherence to the ancient creed, had left it with many others in early life, and entered the Spanish brigade.

'Interque mœrentes amicos,
Egregius properârat exul.'

He told us he was standing in the fort of St. Roque just at the time that the *Hannibal* ran aground, and was forced to strike her colours to the guns of Algesiras. At that moment, unconquerable love of his deserted country took possession of his soul. He threw down a telescope, which he held in his hand, and burst into a flood of tears. After he had told us this, he added, that whilst Sir James Saumarez was hotly engaged with the forts, his son, a boy of only eleven years old, stole away from St. Roque, and ran round the bay to Algesiras. There he mounted the battery against which Sir James was directing his heaviest shot; and he helped to serve the guns till all was over. 'On the boy's safe return home,' said the Colonel, 'though I admired his bravery, I was obliged to whip him for his rashness in having exposed himself to almost inevitable death.' I thought I could perceive a mark in the Colonel's face, as he said this, which led me to understand that there was something more than paternal anxiety for the boy's welfare which had caused him to apply the rod; and when I call to mind the affair of the telescope, I concluded that, had a French squadron, in lieu of an English one, been bombarding Algesiras, young Lyon would have escaped even without a reprimand.

"I left my travelling friend in Cadiz, and returned to Malaga on board a Spaniard, who kept close under Ceuta as we passed up the Straits of Gibraltar. It grieves me to add that, many years after this, on my return to England from the West Indies, in passing through my former companion's native town, I made inquiries after him, and I was informed by a gentleman who had sat upon the inquest, that my companion had fallen in love, had wooed in vain, and hanged himself in despair.

"More than a year of my life had now passed away in Malaga and its vicinity, without misfortune, without care, and without annoyance of any kind. The climate was delicious; and I felt regret in making preparations to leave this old Moorish town on a trip to Malta. But the Spanish proverb informs us, that man proposes, and God disposes: '*El hombre pone, y Dios dispone.*' Many a bright and glorious morning ends in a gloomy setting sun.

"There began to be reports spread up and down the city that the black vomit had made its appearance; and every succeeding day brought testimony that things were not as they ought to be. I myself, in an alley near my uncles' house, saw a mattress of most suspicious appearance hung out to dry. A Maltese captain, who had dined with us in good health at one o'clock, lay dead in his cabin before sunrise the next morning. A few days after this I was seized with vomiting and fever during the night. I had the most dreadful spasms, and it was supposed that I could not last out till noon the next day. However, strength of constitution got me through it. In three weeks more, multitudes were seen to leave the city, which shortly after was declared to be in a state of pestilence. Some affirmed that the disorder had come from the Levant; others said that it had been imported from the Havanna; but I think it probable that nobody could tell in what quarter it had originated.

"We had now all retired to the country-house—my eldest uncle returning to Malaga from time to time, according as the pressure of business demanded his presence in the city. He left us one Sunday evening, and said he would be back again some time on Monday; but that was my poor uncle's last day's ride. On arriving at his house in Malaga, there was a messenger waiting to inform him that Father Bustamante had fallen sick, and wished to see him. Father Bustamante was an aged priest, who had been particularly kind to my uncle on his first arrival in Malaga. My uncle went immediately to Father Bustamante, gave him every consolation in his power, and then returned to his own house very unwell, there to die a martyr to his charity. Father Bustamante breathed his last before daylight; my uncle took to his bed, and never rose more. As soon as we had received information of his sickness, I immediately set out on foot for the city. His friend Mr Power, now of Gibraltar, was already in his room, doing everything that friendship could suggest or prudence dictate. My uncle's athletic constitution bore up against the disease much longer than we thought it possible. He struggled with it for five days, and sank at last about the hour of sunset. He stood six feet four inches high; and was of so kind and generous a disposition, that he was beloved by all who knew him. Many a Spanish tear flowed when it was known that he had ceased to be. We got him a kind of coffin made, in which he was conveyed at midnight to the outskirts of the town, there to be put into one of the pits which the galley-slaves had dug during the day for the reception of the dead. But they could not spare room for the coffin; so the body was taken out of it, and thrown upon the heap which already occupied the pit. A Spanish marquis lay just below him.

'Divesne prisco natus ab Inacho,
Nil interest, an pauper, et infimâ
De gente.'

"Thousands died as though they had been seized with cholera, others with black vomit, and others of decided yellow fever. There were a few instances of some who departed this life with very little pain or bad symptoms: they felt unwell, they went to bed, they had an idea that they would not get better, and they expired in a kind of slumber. It was sad in the extreme to see the bodies placed in the streets at the close of day, to be ready for the dead-carts as they passed along.

'Plurima perque vias, sternuntur inertia passim
Corpora.'

The dogs howled fearfully during the night. All was gloom and horror in every street: and you might see the vultures on the strand tugging at the bodies which were washed ashore by the eastern wind. It was always said that 50,000 people left the city at the commencement of the pestilence; and that 14,000 of those who remained in it fell victims to the disease.

"There was an intrigue going on at court, for the interest of certain powerful people, to keep the port of Malaga closed long after the city had been declared free from the disorder; so that none of the vessels in the mole could obtain permission to depart for their destination.

"In the meantime the city was shaken with earthquakes; shock succeeding shock, till we all imagined that a catastrophe awaited us similar to that which had taken place at Lisbon. The pestilence killed you by degrees; and its approaches were sufficiently slow, in general, to enable you to submit to it with firmness and resignation. But the idea of being swallowed up alive by the yawning earth at a moment's notice, made you sick at heart, and rendered you almost fearful of your own shadow. The first shock took place at six in the evening, with a noise as though a thousand carriages had dashed against each other. This terrified many people to such a degree, that they paced all night long up and down the Alameda, or public walk, rather than retire to their homes. I went to bed a little after midnight, but was roused by another shock about five o'clock in the morning. It gave the bed a motion which made me fancy that it moved under me from side to side. I sprang up, and having put on my unmentionables (we wore no trousers in those days), I ran out, in all haste, to the Alameda. There the scene was most distressing: multitudes of both sexes, some nearly in a state of nudity, and others sick at stomach, were huddled together, not knowing which way to turn or what to do.

——'Omnes eodem cogimur.'

However, it pleased Heaven, in its mercy, to spare us. The succeeding shocks became weaker and weaker, till at last we felt no more of them.

"I now began to think it high time to fly. I was acquainted with a Swedish captain, by name Bolin; a most excellent man, and of surprising intrepidity and coolness. His brig having been long laden with fruit from London, he was anxious to depart; and he formed a plan to escape from the harbour. There was no getting a regular clearance at the custom-house; neither would the Swedish Consul afford any assistance; so I went to our own Consul, Mr Laird, with whom I was very intimate, requesting him to give me a certificate to signify that there had not been any sickness in the city for a long time: indeed, it was now in a remarkably healthy state. The Consul complied with my request. As he put the certificate into my hand, 'My young friend,' said he, in a very feeling tone, 'I shall either have to see you sunk by the cannon of the fort, or hear of your being sent prisoner for life to the fortress of Ceuta, on the coast of Africa.'

"I now endeavoured to persuade my remaining uncle to try his fortune with me; but my entreaties were of no avail. He fell an early victim to the fever, which returned with increased virulence the following spring. A letter which I received from my worthy friend Mr Dillon of Alhaurin, some twenty miles from Malaga, informed me that it swept away 36,000 souls.

"Our captain had taken the precaution to make out false papers, in case of need, on account of the war betwixt Great Britain and France. My brother was entered as a passenger, myself as a

Swedish carpenter. We slept on board for many successive nights, in hopes of a fair wind to carry us through the Straits. At last a real east wind did come, and it blew with great violence. The captain, whose foresight and precautions were truly admirable, had given the strictest orders to the crew that not a word should be spoken whilst we were preparing to escape. We lay in close tier amongst forty sail of merchantmen. The harbour-master, having come his usual rounds, and found all right, passed on without making any observations. At one o'clock, post-meridian, just as the Governor had gone to the eastward to take an airing in his carriage, as was his custom every day, and the boats of two Spanish brigs of war at anchor in the harbour had landed their officers for the afternoon's amusements, our vessel worked out clear of the rest, and instantly became a cloud of canvas. The captain's countenance, which was very manly, exhibited a portrait of cool intrepidity rarely seen: had I possessed the power, I would have made him an admiral on the spot. The vessel drove through the surge with such a press of sail, that I expected every moment to see her top-masts carried away. Long before the brigs of war had got their officers on board, and had weighed in chase of us, we were far at sea; and when night had set in, we lost sight of them for ever—our vessel passing Gibraltar at the rate of nearly eleven knots an hour.

"The wind headed us the following night. After thirty days of cold and stormy weather, we ran the risk of following a fishing-boat, for want of a pilot, and anchored off Brownsea Castle, near Poole, in Dorsetshire—an adverse wind not permitting us to proceed up-Channel. Here we sent our papers and Consul Laird's certificate up to London. Contrary to my expectations, we received permission, in due time, to proceed up the Thames. I had often told Captain Bolin, during the voyage, that we should be sent back to the Mediterranean for a regular bill of health; but he thought otherwise, and he was right.

"I brought over with me from Spain a superbly-mounted Spanish gun, and a beautiful ivory crucifix: they had been a present from the Duchess of Alva to my deceased uncle. The gun is the identical one which the famous Duke of Alva had with him in the Low Countries: my uncle always intended it for his relative, the late Sir

Richard Bedingfield, Bart., of Oxburgh, in Norfolk, to which place I sent it. The crucifix had been taken away from Rome by a French general in 1796: it was a present to my mother, and is now at Walton Hall.

"Up to the time of my leaving England for the Mediterranean, I had been accustomed to drink a little beer at dinner; but finding the taste of it bitter on my return, I put the glass down upon the table without swallowing its contents, and have never since drunk one drop of fermented liquors.

"The pestilence at Malaga had shaken me considerably. Being but thinly clad, in coming up the Channel I caught a cold, which attacked the lungs, and reduced me to the brink of the grave. I must have sunk, had it not been for the skill of the late celebrated surgeon, Mr Hey of Leeds: he set me on my legs again; and I again hunted with Lord Darlington. But the bleak and wintry wind of England ill suited a frame naturally chilly, and injured by what had already happened. I longed to bask in a warmer sun.

"My paternal uncle having estates in Demerara, and my father having lately made a purchase there, for the benefit of his younger children, I petitioned to be allowed to go out and superintend them, seeing that there was no chance of travelling with comfort in Europe, on account of the war, which had all the appearance of becoming general."

Waterton left Yorkshire in the autumn, at the beginning of the hunting-season. As he was on his way to York to take the coach for London, he met Lord Darlington, who was just about to throw off, and who asked him where he was going. "To South America," was the answer. "That is no place for a young man like you," said the hunter; "you had better get down and come with us; we shall have a splendid season." "No, my Lord," said Waterton, "I 'll go to South America." Lord Darlington wished him good-bye, and Waterton from the top of the coach looked with longing eyes after the hounds, till they disappeared in the distance. But though sorry enough to leave them behind, he was ever afterwards glad that he stuck to his determination. For the hunting-field, though delightful, is too much of a play-ground for a man to ride on it all his life.

The die hesitated between a fox-hunter and a naturalist, and it was surely a good angel that turned it from sport to science. An experienced fox-hunter gives pleasure chiefly to himself. A great naturalist advances truth, and has it in his power to delight and benefit thousands.

Waterton stayed for a short time with his uncle Sir John Bedingfeld in London. This gentleman's portrait used to hang in the dining-room at Walton Hall, and the face had a considerable family likeness to that of his nephew. On his breast was painted the ribbon and badge of the Guelphic order. The way in which he won that decoration showed that Sir John Bedingfeld resembled his nephew not only in features, but also in intrepidity. In 1796 the carriage of George III. was surrounded by an angry mob, pressing closer and closer. Mr Bedingfeld got on the carriage-step, and pulling his spectacle-case out of his pocket, pointed it at the crowd, and declared he would shoot the first man who advanced. The crowd took the spectacle-case for a pistol, and the King's life was saved. Sir John Bedingfeld introduced his nephew to the President of the Royal Society. I have heard Mr Waterton say that he wore powder for the last time when he went with his uncle to dine with Sir Joseph Banks. The scientific Mæcenas of his age was charmed with the quiet demeanour and the ardour for Natural History which he found united in the young squire. They became friends, and corresponded till the death of Sir Joseph Banks. The Autobiography will carry on the history.

"Sir Joseph Banks ever after took a warm interest in my adventures. He particularly impressed upon my mind his conviction that all low and swampy countries within the tropics are in general very insalubrious, and fatal to European constitutions. 'You may stay in them,' said he to me, 'for three years or so, and not suffer much. After that period, fever and ague, and probably a liver disease, will attack you, and you will die at last, worn out, unless you remove in time to a more favoured climate. Wherefore,' continued he, 'as you have not your bread to seek, you must come home once in three years, at farthest, and then all will go right.' I followed this admirable advice with great success: still, I used to think that I ran less risk of perishing in those unwholesome swamps than most other Europeans, as I never found the weather too hot, and I could go bareheaded under a nearly equatorial sun without experiencing any inconvenience. Too often, however, might others have exclaimed with Admiral Hosier's ghost :—

> 'Sent in this foul clime to languish ;
> Think what thousands fall in vain,
> Wasted with disease and anguish,
> Not in glorious battle slain.'

"I sailed from Portsmouth in the ship *Fame*, Captain Brand, on November 29, 1804, and landed at the town of Stabroek, in *ci-devant* Dutch Guiana, after a passage of about six weeks. I liked the country uncommonly, and administered to the estates till 1812 : coming home at intervals, agreeably to the excellent and necessary advice which I had received from Sir Joseph Banks. In the month of April, 1812, my father and uncle being dead, I delivered over the estates to those concerned in them, and never more put foot upon them. In my subsequent visits to Guiana, having no other object in view than that of Natural History, I merely stayed a day or two in the town of Stabroek (now called George Town), to procure what necessaries I wanted ; and then I hastened up into the forests of the interior, as the 'Wanderings' will show. Whilst I was on the estates, I had the finest opportunity in the world of examining the water-fowl of Guiana : they were in vast abundance all along the sea-shore, and in the fresh-water swamps behind the plantations. No country in the world can offer a more extensive and fertile field to the ornithologist, than our celebrated colony of Demerara.

"Notwithstanding the most guarded sobriety and abstinence on my part, the fever and ague would at times assault me with great obstinacy. The attacks could always be traced to my getting wet, and remaining in my wet clothes until the sun had dried them ; a custom never to be sufficiently condemned in any country. But, as Fénélon remarks, 'La jeunesse est présomptueuse : elle se promet tout d'elle-même ; quoique fragile, elle croit pouvoir tout, et n'avoir jamais rein à craindre : elle se confie légèrement, et sans précaution.'

"When the ague came on to any serious extent, I would go up to

Mr Edmonstone's house, in Mibiri Creek, for change of air. He was the most valued friend I ever had in the world; and I seldom failed to recover my health during the time that I remained with him. His nephew, Mr Archibald Edmonstone, was all hospitality and kindness. He was very knowing in the woods, and would find out the fruit-bearing trees, where the finest birds in Guiana were to be seen. Nobody was better acquainted with the forest trees than he was. I have by me a catalogue of his, in which he enumerates nearly seventy trees found in that neighbourhood; and he gives the size at which they generally arrive, their Indian names, their qualities, and their uses.

"In the year 1808, Admiral Collingwood having sent despatches to Demerara for the Spanish Government in the Orinoco, I was requested by Governor Ross to be the bearer of them. On the 11th of September in the previous year I had received from the Governor of Demerara my commission as lieutenant in the second regiment of militia. As no declaration had been previously required from me against transubstantiation, nor any promise that I would support the nine-and-thirty articles of faith by law established, nor any innuendoes thrown out touching 'the devil, the Pope, and the Pretender,' I was free in conscience to accept of this commission. It was the first commission that any one of the name of Waterton had received from Queen Mary's days. During that long interval, not a Waterton could be found vicious enough to regain his lost birthright at the incalculable sacrifice of conscience.

"As my friend Mr Edmonstone was but in a poor state of health, I thought a change of air would be of service to him. At my earnest entreaty, his name was included in the commission. I now waited on the Governor for the last time; and after he had imparted to me his private instructions on certain points which he wished me to ascertain during my stay in Angustura, he gave me my commission, together with the despatches of Admiral Collingwood, for the Captain-General of the Orinoco. The commission is dated August 2, 1808.

"I sailed from Demerara in the *Levina*, flag of truce. After we had doubled Point Barima, we found the current rushing down with astonishing rapidity, and carrying with it enormous fragments of trees into the Atlantic Ocean. We soon found it necessary to get the vessel into the eddy water, close to the bank, and at all the points where the stream met us, we carried out a hawser in the small boat, and lashed it to the branches of the trees which overhung the river. By means of this perpetual warping, we worked our slow and tedious way up to Sacopan, and thence to the fort at Barrancas, where the Spanish officers provided us with a craft of their own. It was a long boat, schooner-rigged, and admirably adapted to the service for which it was intended. During the whole of the passage up the river, there was a grand feast for the eyes and ears of an ornithologist. In the swampy parts of the wooded islands, which abound in this mighty river, we saw waterfowl innumerable; and when we had reached the higher grounds, it was quite charming to observe the immense quantities of parrots and scarlet aras which passed over our heads. The loud, harsh screams of the bird called the horned-screamer were heard far and near; and I could frequently get a sight of this extraordinary bird as we passed along; but I never managed to bring one down with the gun, on account of the difficulty of approaching it. Whilst we were wending our way up the river, an accident happened of a somewhat singular nature. There was a large labarri snake coiled up in a bush, which was close to us. I fired at it, and wounded it so severely that it could not escape. Being wishful to dissect it, I reached over into the bush, with the intention to seize it by the throat, and convey it aboard. The Spaniard at the tiller, on seeing this, took the alarm, and immediately put his helm a-port. This forced the vessel's head to the stream, and I was left hanging to the bush with the snake close to me, not having been able to recover my balance as the vessel veered from the land. I kept firm hold of the branch to which I was clinging, and was three times overhead in the water below, presenting an easy prey to any alligator that might have been on the look-out for a meal. Luckily, a man who was standing near the pilot, on seeing what had happened, rushed to the helm, seized hold of it, and put it hard a-starboard, in time to bring the head of the vessel back again. As they were pulling me up, I saw that the snake was evidently too far gone to do mischief; and so I laid hold of it, and brought it aboard with me, to the horror and surprise of the crew. It measured eight feet in length. As soon as I had got a change of clothes, I killed it, and made a dissection of the head. I would sometimes go ashore in the swamps to shoot maroudies, which are somewhat related to the pheasant; but they were very shy, and it required considerable address to get within shot of them. In these little excursions I now and then smarted for my pains. More than once I got among some hungry leeches, which made pretty free with my legs. The morning after I had had the adventure with the labarri snake, a cayman slowly passed our vessel. All on board agreed that this tyrant of the fresh waters could not be less than thirty feet long.

"On arriving at Angustura, the capital of the Orinoco, we were received with great politeness by the Governor. Nothing could surpass the hospitality of the principal inhabitants. They never seemed satisfied unless we were partaking of the dainties which their houses afforded. Indeed, we had feasting, dancing, and music in superabundance. The Governor, Don Felipe de Ynciarte, was tall and corpulent. On our first introduction, he told me that he expected the pleasure of our company to dinner every day during our stay in Angustura. We had certainly every reason to entertain very high notions of the plentiful supply of good things which the Orinoco afforded; for at the first day's dinner, we counted no less than forty dishes of fish and flesh. The Governor was superbly attired in full uniform of gold and blue, the weight of which alone, in that hot climate, and at such a repast, was enough to have melted him down. He had not half got through his soup, before he began visibly to liquefy. I looked at him, and bethought me of the old saying, 'How I sweat! said the mutton chop to the gridiron.' He now became exceedingly uneasy; and I myself had cause for alarm; but our sensations arose from very different causes. He, no doubt, already felt that the tightness of his uniform, and the weight of the ornaments upon it, would never allow him to get through that day's dinner with any degree of comfort to himself. I, on the other hand (who would have been amply satisfied with one dish well done), was horrified at the appalling sight of so many meats before me. Good-breeding whispered to me, and said, 'Try a little of most of them.' Temperance replied, 'Do so at your peril: and, for your over-strained courtesy, you shall have yellow fever before midnight.' At last, the Governor said to me in Spanish, 'Don Carlos, this is more than man can bear. *No puedo sufrir tanto.* Pray pull off your coat, and tell your companions to do the same; and I'll show them the example.' On saying this, he stripped to the waistcoat; and I and my friends, and every officer at table, did the same. The next day, at dinner-time, we found his Excellency clad in a uniform of blue Salempore, slightly edged with gold lace.

"Don Felipe de Ynciarte had been a great explorer of Spanish Guiana in his day. He told me that he in person, dressed as a common sailor, had surveyed the whole of the sea-coast from the Orinoco to the river Essequibo. He let me look at a superb map of his own drawing. It was beautifully finished, and my lips certainly watered to have a copy taken of it. After my return to Demerara, I sent this courteous Governor a fine telescope, which had just arrived from London. I corresponded with him until I sailed to Europe for my health. During his government, beef was so plentiful, that the heads and tongues of the slaughtered oxen were thrown to the vultures. Indeed, beef was only one penny a pound, and the finest fish could be had almost for nothing. Canning's new republics, which have arisen out of the former Spanish Transatlantic Empire, may have tended to enrich a few needy adventurers from Europe; but, to the natives in general, they have proved a mighty curse.

"Demerara was now shortly to be deprived of the valuable services of Governor Ross. His health had already begun to give way; and, after he had battled with his disease for some time, he was obliged to consign his government over to other hands, and to try a voyage to Europe. He got well in his native country. But, alas! we are here to-day, and gone to-morrow. This brave officer, and truly just man, was ordered to Alicante in Spain, where he fell a victim to the prevailing fever. He was beloved to enthusiasm by the inhabitants of Demerara. On the 31st of March 1809, we sent an address to him, expressive of our warmest gratitude for the many services he had rendered to us during the time that the colony was under his charge; and we made a subscription of 1500 guineas, which token of public gratitude was presented to him with due form.

"General Carmichael was Governor of Demerara in 1812, the year in which I took a final leave of the estates, and went far into the interior of Guiana in quest of the wourali poison. The General had one of the most difficult tempers in the world to manage. His disposition was generous, but at the same time it was exceedingly fiery; although his ire soon subsided, unless it had received extraordinary and repeated provocation. He had such a profound veneration for royalty, that I do believe he would have sent his own brother out of the house, had he heard him speak with levity of the Prince Regent of England. In person he was shrivelled and weatherbeaten, and of diminutive stature; but he was wonderfully active and vigorous in mind, notwithstanding his great age, for he must have been bordering on seventy at the time that he succeeded to the government of Demerara. My intimacy with him had a singular origin.

"Knowing that I should spend very little time in the civilised parts of the colony, I had not paid my respects at headquarters after the General had succeeded to the government. Prior, however, to my going into the interior, I paid some visits to different friends residing up the river Demerara. About this period an English gentleman of my acquaintance had been outlawed on account of a certain bill transaction. It was said that the party who had caused his disgrace had acted fully as much through private pique as through a love of justice. Indeed, the character of his principal accuser was none so good; and one might have said to him with truth—

'Stamina de nigro vellere facta tibi.'

But this man held a high official situation, and it was as the sevenfold shield of Ajax to him. The unfortunate gentleman (for a gentleman he was in manners and appearance) was skulking up the river Demerara, in order to escape from the colony by the first favourable opportunity. The Governor had offered £500 for his apprehension. To add to his misfortunes, he was sorely afflicted with a liver complaint; and, when he at last fell in with me, he told me that he had gone from place to place for three weeks in quest of me, that I might bleed him, as he dared not intrust himself to a surgeon, on account of the proclamation which was out against him. We were at breakfast, about twenty miles up the river Demerara, at the house of a gentleman who knew how to pity those in distress, when a negro came into the room, and informed us that a tent-boat with four oars was approaching. I looked out of the window, and saw the officers of justice in it. Not a moment was to be lost. I directed our outlaw to go through the back-door into a field of standing canes. But so great was his perturbation, that he jumped out of the window; and, in lieu of taking over a bridge close at hand, he ran through a filthy trench, nearly up to the arm-pits in water. It was not more than half-flood tide in the river; and, on this account, the officers could not land at the house without walking up a square log of wood which had been placed on the mud, and formed part of the stelling, or wharf, for the accommodation of those who land when the water is low. On this log I took my stand, and disputed the passage with the officers of justice. They could not pass without forcing me up to the middle in mud, or making me retrace my steps up the log. When I thought there had been time enough allowed for the fugitive to make his escape, I returned to the house, they following close on my steps, and entering into it immediately after me. Not having succeeded in the object of their search, they returned to the boat, muttering curses in Dutch as they re-crossed the threshold.

"The next day a warrant arrived, ordering me to appear immediately at Government House. Although I did not know the Governor personally, I was pretty well acquainted with his character; and I was aware that there was only one way for me to act. So I resolved at once to take him on his weak side, if so it might be called. On my name being announced, he came into the hall. Whilst looking at me full in the face, he exclaimed, in a voice too severe to last long, 'And so, sir, you have dared to thwart the law, and to put my late proclamation at defiance?' 'General,' said I, 'you have judged rightly; and I throw myself on your well-known generosity. I had eaten the fugitive's bread of hospitality when fortune smiled upon him; and I could not find in my heart to refuse him help in his hour of need. Pity to the unfortunate prevailed over obedience to your edict; and had General Carmichael himself stood in the shoes of the deserted outlaw, I would have stepped forward in his defence, and have dealt many a sturdy blow around me, before foreign bloodhounds should have fixed their crooked fangs in the British uniform.' 'That's brave,' said he; and then he advanced to me, and shook me by the hand. I stayed with him about a couple of hours, and told him of my intended expedition through the forests to the Portuguese settlements on the Rio Branco, adding that I had already observed the necessary formalities required by law from those who are about to leave the colony. He gave me permission to range through the whole of *ci-devant* Dutch Guiana for any length of time, and ordered my passport to be made out immediately. It bears his signature, and date of April 16, 1812.

"To General Carmichael indirectly I owe one of the best watches that man ever wore. Many of those colonists who held public offices in Demerara had not been over and above scrupulous in their money transactions with the Government; and the General had given it out that they should all be summoned, and be made to swear to their accounts. Amongst them was a Dutch gentleman (since dead) in the colonial service, who had still a large slice of conscience left. He told his friends that he was quite aware he could never make out a just balance-sheet, but that he would die before he would take a false oath. The affair haunted him day and night, until he could bear it no longer; and he actually proceeded up the river Demerara, to the house of his friend Mr Edmonstone in Mibiri creek, with the full intention of proceeding through the interior to the far distant Portuguese or Spanish settlements, as occasion might offer. I was staying with Mr Edmonstone at the time. As the fugitive officer was walking with me in the woods on the following morning, he entered more largely on the plan of his intended escape; and he said he had arranged his little affairs pretty well before he left the town; but that he had not been able to dispose of his watch, which was nearly new, and which had been made to order by Keating of London, who had charged forty pounds for it. My companion had been very attentive to me formerly, when he was at Government House in the time of Governor Bentinck. Knowing that a friend in need is a friend indeed, I put his watch into my waistcoat pocket, after having returned him his seals, and two rings attached to it, and told him I was his debtor for the sum of sixty guineas. This was in the spring of 1812, from which time to the beginning of the year 1825 the 'Wanderings' form a continuation of these Memoirs. But as a few interesting occurrences took place in the interval betwixt these dates, I will pen them down in the following pages. During my expedition for the wourali poison, in the summer of 1812, General Carmichael had written to Lord Bathurst, to say that I was in the forests; and that if he wanted a person to conduct an exploring enterprise, he thought that I might be safely recommended to his Lordship's notice. I had returned from the interior broken down with sickness, brought on by being reduced to eat unwholesome food, and by being exposed day and night to the inclemency of the rainy season. The doctors having ordered me to England without loss of time, I took my passage on board the *Fame* of Liverpool, Captain Williams. During my stay in Stabroek, previous to the vessel's leaving port, the General gave me the colonial despatches to be delivered to Lord Bathurst, and at the same time he presented me with a warm letter of introduction to his Lordship. We had a splendid ball on the eve of our departure. In the ball-room General Carmichael took the opportunity of introducing me to Captain Peake of the *Peacock* sloop-of-war, appointed to be our convoy to Barbadoes. On the following morning, when we had got up our anchor, Captain Peake came alongside of the *Fame*, and invited me to stay with him on board the *Peacock* until we should reach Barbadoes; adding, that when he had got all the fleet fairly under weigh, he would not fail to send his boat for me. This, unfortunately, was our last interview. By eleven o'clock it blew a gale of wind; and as the *Fame* made a poor hand of it when close-hauled, we drifted bodily to leeward, lost sight of the fleet in the evening, and at last barely managed to fetch Grenada, in lieu of making Barbadoes. In the meantime, Captain Peake, having brought his fleet to an anchor in Carlisle Bay, returned to the coast of Guiana, where he fell in with an American man-of-war. She was his superior in men and guns, but not in valour; for our brave captain fought her to the last, and he was cut in two by a cannon ball just at the time that his own vessel went down. He was held in great esteem by the colonists; and I have heard that they raised a monument to his memory in the church at Stabroek.

"The voyage to Europe did not recruit my health. When I had landed in Liverpool, I was unable to proceed to London with the despatches; so I sent them by the mail, and wrote a letter of apology to Lord Bathurst. His Lordship returned a very kind answer, and requested that I would repair to London when I had got better of the tertian ague, as he wished me to explore Madagascar. When I had rallied a little, I proceeded to London, and waited on him. He told me that I should have to explore the interior of Madagascar; with permission to visit Monomotapa and the Sechelles Islands, &c.; and that a man-of-war would take me out early in October following. This was in the month of May 1813. The ague still annoying me cruelly, I wrote to Lord Bathurst, and begged to resign the commission. Horace once condemned himself for running away,—*Relictâ non bene parmulâ.* It was for me to have condemned myself too on this occasion; for I never acted so much against my own interest as when I declined to go to Madagascar. I ought to have proceeded thither by all means, and to have let the tertian ague take its chance. My commission was a star of the first magnitude. It appeared after a long night of political darkness, which had prevented the family from journeying onwards for the space of nearly three centuries. I can fancy that it beckoned to me, and that a voice from it said, 'Come and serve your country; come and restore your family name to the national calendar, from which it has been so long and so unjustly withdrawn; come and show to the world that conscience, and not crime, has hitherto been the cause of your being kept in the background; come into the national dockyard, and refit your shattered bark, which has been cast on a lee-shore, where merciless wreck-seekers have plundered its stores, and where the patriots of yesterday have looked down upon it with scorn and contempt, and have pronounced it unworthy to bear its country's flag.' I ought to have listened to this supposed adviser at the time: but I did not; and the star went down below the horizon, to appear no more. Few people, except those who have been to seek adventures in far distant countries, are aware of the immense advantages of a Government commission, especially when the traveller is in our own colonies. With it, his way is clear, and his story is already told: everybody acknowledges his consequence, and is eager to show him attention. Without it, he is obliged to unfold his object in view at every step; he must fight his own cause through surrounding difficulties, and lose many a day for want of somebody to take him by the hand. In 1824, I was at St John's, in the island of Antigua, and had to attend at a public office prior to my going on board the mail-boat for Dominica. I had lately arrived from the United States, very much out of health; and I wore one of those straw hats, with a green riband round it, so common in the republic. The harbour-master, who presided, and outwardly appeared much of a gentleman, eyed me, as I thought, contemptuously on my entering the room. I was right in my conjecture, for he seemed determined to wear out my patience; and he kept me standing above half an hour, without once asking me to take a seat, although there were plenty of chairs in the room. In returning to the hotel with the captain of the mail-boat, I observed to him how very deficient the harbour-master had been in common courtesy. He replied, that as soon as I had gone out of the door of the office, the harbour-master stopped him to inquire who I was; and when he had told him that I was an English gentleman, travelling in quest of Natural History, he remarked that he had been mistaken in his surmise, for that he had taken me for a damned Yankee.

"In the autumn of 1814, as I was shooting with my excellent brother-in-law, Mr Carr, I had a proof that, although a man may escape with impunity in distant regions, he may stumble on misfortune at home, when he least expects it. My gun went off accidentally. I had just rammed the paper down upon the powder, when the ramrod, which was armed with brass at both ends, passed quite through my fore-finger, betwixt the knuckle and the first joint, without breaking the bone—the paper and ignited powder following through the hole, and rendering its appearance as black as soot. I repaired to a tenant's house and poured warm water plentifully through the wound, until I had washed away the marks of the gunpowder; then collecting the ruptured tendons, which were hanging down, I replaced them carefully, and bound up the wound, not forgetting to give to the finger its original shape as nearly as possible. After this I opened a vein with the other hand, and took away to the extent of two-and-twenty ounces of blood. Whilst I am on phlebotomy, I may remark, that I consider inflammation to be the root and origin of almost all diseases. To subdue this at its earliest stage has been my constant care. Since my four-and-twentieth year, I have been blooded above one hundred and ten times, in eighty of which I have performed the operation on myself with my own hand. This, with calomel and jalap mixed together as a purgative, with the use of rhubarb in occasional cases of dysentery, and with vast and often-repeated potations of powdered Peruvian bark as a restorative, has enabled me to grapple successfully with sickness when I was far away from medical aid. In cases where laudanum was *absolutely* necessary, I was always extremely cautious, having seen far too many instances of the distressing effects produced in other people by the use of this insidious drug. My severest trials of sickness were those when I had to contend with internal inflammation, at the very time that I was labouring under tertian ague. In those cases, the ague had to bear all the burden, for I knew that it was not a mortal complaint, whereas the inflammation was not to be trifled with for one moment. Under this impression I would fearlessly open a vein, and would trust to the Peruvian bark, at a later period, to counteract the additional encouragement which I had been forced to give to the ague through the medium of the lancet. I am now, I think, in as perfect health as a man can be. But let me finish the account of my accident. On reaching home I applied a very large poultice, which was renewed twice every day. The inflammation never extended beyond the knuckles, and I recovered the full use of the finger in due course of time.

"Early in the year 1817, an expedition was formed to explore the river Congo, in Africa. I went to London and requested Sir Joseph Banks to allow me to accompany it as a volunteer. He acceded to my wishes. One day, whilst I was in his room, there came a letter to inform him that the steam-vessel appointed for the expedition did not answer expectations; for its powers were not considered adequate to make way against the downward stream of the Congo. 'Then,' exclaimed Sir Joseph, with great emphasis, 'the intended expedition will be a total failure;' and putting his hand upon my shoulder, 'My friend,' said he, 'you shall not go to Africa. There will be nothing but disappointment and misfortune, now that the plan of proceeding by steam cannot be put in execution to the extent which I deem absolutely necessary for the success of the enterprise.' He then requested me to prolong my stay in London, and to meet the scientific gentlemen who formed the expedition for a day or two at his house, in order to impart certain instructions to them. I did so; and showed them many things which, I think, could not fail to prove useful* to them in their preparation of specimens for the benefit of Natural History. Above all things, I tried to impress upon their minds the absolute necessity of temperance; and I warned them particularly never to sleep in their wet clothes.

"I left London for Yorkshire, and from thence went to Liverpool, where I embarked on board the *Indian*, Captain Balberney, for Pernambuco, in Brazil. Whilst I was on the other side of the Atlantic, I read an account in one of the English papers, which stated that the Congo expedition had entirely failed, and that several of the gentlemen whom I had met at the house of Sir Joseph Banks had perished in it.

"In the winter of 1817–18, I was in Italy with my friend Captain Alexander of the navy. During our stay in the Eternal City, I fell in with my old friend and schoolfellow, Captain Jones. Many a tree we had climbed together in the last century; and, as our nerves were in excellent trim, we mounted to the top of St Peter's, ascended the cross, and then climbed thirteen feet higher, where we reached the point of the conductor, and left our gloves on it. After this, we visited the Castle of St. Angelo, and contrived to get on to the head of the guardian angel, where we stood on one leg.†

"As Captain Alexander and myself were returning over Mount Cenis, I fancied that the baggage had broken loose on the top of the carriage, so I immediately mounted on the wheel to see what was the matter. As bad luck would have it, I came in contact with the window, and smashed the glass: two pieces of the pane, an inch long, penetrated a little above the cap of the left knee, on the inner side, and broke short off. This was at ten o'clock of the night. I put my thumb firmly on the wound, until the Captain had brought one of the lamps to bear on it. On seeing the blood flow in a continued stream, and not by jerks, I knew that the artery was safe. Having succeeded in getting out the two pieces of glass with my finger and thumb, I bound the wound up with my cravat. Then cutting off my coat-pocket, I gave it to the captain, and directed him to get it filled with poultice, in a house where we saw a light at a distance. The next day a strong fever came on, so we stopped until it had abated, and then we went on again, and stopped again on account of the fever, and again proceeded, until at last we reached Paris; the wound being in a deplorable state. Here Dr Marshall, a friend from Demerara, took me under his care until I was in a state to proceed to England. He showed exquisite skill in his treatment of the wound, and would have done wonders for it had I stayed a sufficient length of time with him.

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* "SOHO SQUARE, *Saturday evening.*

"MY DEAR SIR,—

"I return your manuscript, with abundant thanks for the very instructive lesson you favoured us with this morning, which far excelled in real utility every thing I have hitherto seen.

"Your obliged and faithful,

"JOSEPH BANKS."

† While in Rome Waterton laid before the Pope, Pius VII., a memorial on the religious condition of the regions of South America, which he had visited. In this he points out the decay of education and of morals which had followed the expulsion of the Jesuits.—[ED.]

"On my arrival in London, Father Scott, of the Society of Jesus, came immediately to my assistance. Having inspected the wound, he took his departure without loss of time, and he brought back with him the celebrated Mr Carpue, to whose consummate knowledge and incessant attention I owe the preservation of the limb, and probably of life too. The knee continued stiff for nearly two years; but, by constant exercise, and by refusing the aid of a walking-stick, it lost at last all rigidity, and is now as sound as though it had never been injured. I have often thought since, that I should have laid my bones in France, but for the unwearied exertions of my friend Captain Alexander."

His prolonged course of observation on the Demerara estates was of immense advantage to Waterton, when he continued his studies in that great university of Natural History, the primeval forest. Most European travellers come fresh from their native country to the tropics. The number of new and exciting sights is bewildering, and hence their reports of what they see are frequently inaccurate. The years which Waterton had spent in Demerara enabled him to take into the forest the experience of an Indian. An acute mind is necessary for noting phenomena with discriminating precision, but as the knowledge of what to look for can alone insure correct results, the naturalist is more dependent on his previous studies than on his quickness at the time. Though both qualifications were possessed by Waterton, it is to the stores of information he acquired in the colony that the faultlessness of his observations in the forest is due.

In the year 1806 Mr Waterton of Walton Hall died, and his eldest son, Charles, succeeded to his estates. The property was compact, but not extensive. Had Waterton inherited the whole of the lands which his ancestors held at the time of the Reformation, his fortune would have been not less than £40,000 a year. But the greater part of the ancient estate was confiscated by Henry VIII., and the small corner left with the Watertons had been ill able to support the heavy burden of constant double taxes and of occasional fines, which the penal laws imposed upon Roman Catholics. Even some park land close to the house had been sold to defray a tax, of which the non-payment would have caused the loss of all. A man who, having just attained his majority, succeeds to an estate, seldom considers sufficiently its condition. He feels that the incumbrances belong to the past, the enjoyment to the present. He tries to forget the burden, and prefers to be free for a time, at the expense of being secure. The new squire of Walton was guilty of no such imprudence. Study and travel had already taught him, at the age of twenty-four, that a man's means are to be measured, not by his income, but by his expenditure. He examined the condition of his estate, and fitted his way of living to his revenue. His economy touched nothing which it was right to maintain. Charity, the repair of buildings and fences, these he did not stint; but against the expenses which to a thoughtless man seem most important, and to a thinking man least so, he pulled his purse-strings tight. He esteemed hospitality one of the first duties of a gentleman, and he made it known that his table was always open, without invitation, to his neighbours; but during the whole fifty-nine years which he reigned at Walton he never gave a dinner-party in the ordinary sense of the term. This honest stand against a conventional folly was at first considered extraordinary: his guests soon found that where there was the least show there was the kindliest welcome. The simple table of Walton became famous for its geniality, its social ease, and its pleasant conversation. All who came, and they were many, felt that it had a charm far above that of costlier feasts.

During the twenty years which followed his succession to Walton Hall, Waterton made four journeys to the New World in quest of Natural History. The first journey was in 1812, when he travelled into the interior of Guiana partly for exploring purposes, and partly to obtain some pure wourali poison. Since the days of Sir Walter Raleigh the wilds of Guiana had been but little disturbed by European footsteps. That scholarly marauder sought in the east of South America what Pizarro had found in the west. It was an old tradition of the Indians that far in the depths of the primeval forest, between the Orinoco and the Amazons, was a great inland sea, Lake Parima, upon whose shores stood the ancient and wealthy city of El Dorado. To lead captive the princes of El Dorado, and to rifle their golden hoards, was the object of Raleigh. Ambition and lust of gain urged him to penetrate those remote regions. He failed, and the melancholy history of his captivity and cruel death have thrown a veil over his crimes. The motives of his successor in travel were different. Alone, unaided, without hope of gain, Waterton tracked those pathless wilds. He knew that the towers of El Dorado were but castles in the air: he sought to find out if Lake Parima was also a myth.

This, however, was but a minor purpose of his journey. His main design was to collect a quantity of the wourali poison. This famous composition is used by the Indians of Guiana to envenom their arrows, and the history of its deadly effect was one of the astonishing tales which the early voyagers across the Atlantic told to wondering listeners on their return. It seemed possible that a substance so powerful might have medicinal virtues. The forests of South America had already yielded a drug of superlative value. A worthless-looking substance, which the Jesuit missionaries stripped from the trees in the woods, turned out a more beneficent treasure than that gold which was at once the hope, the prize, and the bane of the warrior conquerors. The golden wealth of America led to the depopulation of states, but quinine has made habitable some of the finest regions of the earth. By its aid the European is enabled to withstand, for a time at least, the fevers of the tropics, and it has almost deprived ague of its terrors. It was the hope of finding another such blessing for mankind that led Waterton so far into the solitudes of Guiana. He thought it likely that the wourali poison might prove a specific for hydrophobia and tetanus. Frightful spasm is the prominent symptom of those awful maladies; complete quiescence is the effect of the administration of wourali. It seemed probable that this material, hitherto a means of death, might save life where medical art was still powerless. But the mode of preparing wourali was unknown to Europeans, and such specimens of it as the Indians brought down to the colony were always dilute and often effete. It was only far in the interior that the pure poison could be obtained, and its ingredients learned. With these purposes Waterton started on his tedious and dangerous expedition. A desire to do good, a true love of science, spurred him on, and religion sustained him through all hardships and perils.

The route which Waterton took is related in his "Wanderings." His extreme point was Fort Saint Joachim, on the Rio Branco, which flows into the Rio Negro, a branch of the Amazons. The course of his journey may briefly be described by saying that he went in the line of the river Demerara, and returned in that of the river Essequibo. How very little was known of the country is shown by the fact that there is no good map of it of earlier date than the beginning of the second quarter of this century. Several had been published by Dutch map-makers before that time: they contain the names of some of the chief rivers and of a few places on the sea board, but inland there is a blank, only broken by a Lake Parima, varying in size according to the fancy of the engraver, with sometimes the city of El Dorado on its banks. No map, whether Dutch or English, gives any exact information for more than a few miles up the Demerara and Essequibo rivers. The Indians alone knew the paths of the forest. Waterton's description of his track, told without any pretence, is so clear and so accurate, that Sir Robert Schomburgk, who afterwards took the same journey, declared that he was entirely guided by Waterton's directions. Schomburgk was the first to publish a good map, and it is still the best, of Guiana, though it is impossible to avoid the expression of a wish that he had been as candid as he was laborious. He has copied whole passages from the "Wanderings," with no other change than the transformation of an interesting into a heavy style, and notwithstanding all his obligations to Waterton, he has never once mentioned him in his books with respect.

Waterton attained his main object. He penetrated the mystery of the wourali poison, and obtained a supply of it in its strongest form. He thus describes its preparation :—*

"A day or two before the Macoushi Indian prepares his poison, he goes into the forest in quest of the ingredients. A vine grows in these wilds which is called wourali. It is from this that the poison takes its name, and it is the principal ingredient. When he has procured enough of this, he digs up a root of a very bitter taste, ties them together, and then looks for about two kinds of bulbous plants, which contain a green and glutinous juice. He fills a little quake which he carries on his back with the stalks of these; and lastly, ranges up and down till he finds two species of ants. One of them is very large and black, and so venomous that its sting produces a fever; it is most commonly to be met with on the ground. The other is a little red ant which stings like a nettle, and generally has its nest under the leaf of a shrub. After obtaining these, he has no more need to range the forest. A quantity of the strongest Indian pepper is used; but this he has already planted round his hut. The pounded fangs of the labarri snake, and those of the counacouchi, are likewise added. These he commonly has in store, for when he kills a snake, he generally extracts the fangs and keeps them by him.

"Having thus found the necessary ingredients, he scrapes the wourali vine and bitter root into thin shavings, and puts them into a kind of colander made of leaves: this he holds over an earthen pot, and pours water on the shavings: the liquor which comes through has the appearance of coffee. When a sufficient quantity has been procured, the shavings are thrown aside. He then bruises the bulbous stalks, and squeezes a proportionate quantity of their juice through his hands into the pot. Lastly, the snake's fangs, ants, and pepper are bruised, and thrown into it. It is then placed on a slow fire, and as it boils, more of the juice of the wourali is added, according as it may be found necessary, and the scum is taken off with a leaf: it remains on the fire till reduced to a thick syrup of a deep brown colour. As soon as it has arrived at this state, a few arrows are poisoned with it to try its strength. If it answer the expectations, it is poured out into a calabash, or little pot of Indian manufacture, which is carefully covered with a couple of leaves, and over them a piece of deer's skin, tied round with a cord. They keep it in the most dry part of the hut; and from time to time suspend it over the fire to counteract the effects of dampness."

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* "Wanderings."

Waterton did not, as careless writers have asserted, suppose that the fangs and the ants were the active parts of the compound. He has distinctly pointed out that the essential substances were the vegetables, and while adding, with true scientific caution, that it would not be proper to assume without direct proof that the animal ingredients were altogether inoperative, he went on to show that superstition alone had probably suggested their employment. The manufacture of wourali was, with the Indian, a solemn and gloomy operation, which partook of the magical. Man is prone to invest natural objects with properties corresponding to the effects they produce upon his own imagination. Thus because the cry of the owl in the stillness of night filled the mind with a species of awe, an evil influence was believed to exist in the very body of the bird, and hence the witches in "Macbeth" throw an "owlet's wing" into their cauldron. For the same reason they cast in the liver of a blaspheming Jew, the nose of a Turk, the lips of a Tartar, the scale of a dragon, the tooth of a wolf, &c., which were presumed to carry with them the concentrated malignity of the beings from which they came. The finger of a "birth-strangled babe" was even supposed to infuse into the mixture the cruelty of its unnatural mother. When such a power was ascribed to fragments which were merely typical of living propensities, much more would the ignorant conclude that actual or fancied venom would be sure to retain its deadly properties, and accordingly Shakespeare's witches take for granted that a toad, an "adder's fork," and a "blind worm's sting," will increase the potency of their unearthly brew. Arguing from old European superstitions, Waterton surmised that the wild, untaught Indian was the dupe of similar delusions. "If," he says, "enlightened man lets his better sense give way, certainly the savage may imagine that the ants, whose sting causes a fever, and the teeth of the labarri and counacouchi snakes, which convey death in a very short space of time, are essentially necessary in the composition of his poison; and being once impressed with this idea, he will add them every time he makes the poison, and transmit the absolute use of them to posterity." Most of the medicines set down by physicians in the complicated prescriptions of former days were merely traditional remedies, which had no effect upon the disease, and modern science has not yet emancipated itself entirely from the false and hasty inferences of the savage.

Both in South America, and after he got back to England, Waterton made numerous experiments with the wourali poison. The main result was the discovery, that if artificial respiration be maintained till the action of the poison has passed off, life may be preserved. With regard to the second and minor object of his journey, Waterton could hear nothing of the inland sea, though he questioned the Indians closely, and he came to the conclusion that the flooding of a great plain in the rainy season was the origin of the tradition of Lake Parima.

On his return from the forest, Waterton made a short stay in the colony, sailed thence to Granada, visited the island of Saint Thomas, and so to England. He had suffered from fever in Guiana, and after his return a tertian-ague troubled him for some time. But he longed to enjoy again the wonders of the tropics, and in 1816 sailed for Pernambuco. In its neighbourhood he collected many beautiful birds. He did not travel far into the interior of Brazil, but his stay was not without adventures.

"One afternoon, in an unfrequented part not far from Monteiro, these adventures were near being brought to a speedy and final close. Six or seven blackbirds, with a white spot betwixt the shoulders, were making a noise, and passing to and fro on the lower branches of a tree in an abandoned, weed-grown orchard. In the long grass under the tree, apparently a green grasshopper was fluttering, as though it had got entangled in it. When you once fancy that the thing you are looking at is really what you take it for, the more you look at it the more you are convinced that it is so. In the present case this was a grasshopper beyond all doubt, and nothing more remained to be done but to wait in patience till it had settled, in order that you might run no risk of breaking its legs in attempting to lay hold of it while it was fluttering. It still kept fluttering; and having quietly approached it, intending to make sure of it—behold the head of a large rattlesnake appeared in the grass close by: an instantaneous spring backwards prevented fatal consequences. What had been taken for a grasshopper was in fact the elevated rattle of the snake in the act of announcing that he was quite prepared, though unwilling, to make a sure and deadly spring. He shortly after passed slowly from under the orange tree to the neighbouring wood on the side of a hill: as he moved over a place bare of grass and weeds, he appeared to be about eight feet long. It was he who had engaged the attention of the birds, and made them heedless of danger from another quarter: they flew away on his retiring; one alone left his little life in the air, destined to become a specimen, mute and motionless, for the inspection of the curious in a far distant clime."

From Pernambuco, Waterton sailed for Cayenne. He examined its fine gardens, and made a good many observations in Natural History. One evening, while sitting under a cinnamon tree, a branch fell upon his head. The insect, which the colonists call a knife-grinder, had cut the branch half through, when the weight of the foliage snapped it off. This bough he brought home. An expedition in search of tropic birds was foiled by bad weather. Waterton proceeded by way of Paramaribo to Demerara, where he spent six months studying the habits of the birds of the forest, and preparing the skins of the most brilliant. He stuffed more than two hundred upon a plan which he had himself invented.

He had observed that every specimen in every museum he had visited was shockingly deformed. The skins were shrunk, the lips and nose of the quadrupeds shrivelled up, and altogether the skin and straw representative was a hideous caricature of the flesh and blood original. For fourteen years, Waterton kept the subject before his mind. At last the right idea dawned upon him as he lay in his hammock revolving the problem which had baffled him so long. He tried his scheme the next morning, and found that he had discovered a method by which the bodies of animals could be represented in their true shape and attitude, and the heads with their living and prevailing expression. The ordinary plan of stuffing is to cure the skin with arsenic, or some other poison. This prepared skin is puffed out with cotton, moss, or straw, and propped up with wire, which always produces, says Waterton, "a disagreeable stiffness, and derangement of symmetry." His process was widely different. He soaked the skin in corrosive sublimate dissolved in alcohol. The mixture penetrated every pore, and being anti-putrescent, preserved the skin from decay, and being poisonous, secured it from the depredations of insects. As the solution kept the skin moist and flexible for several days, it could all this while be moulded at will. The hollows and protuberances of the animal frame, the play and action of feather and limb, the physiognomy of pain or pleasure, rage or mildness, could be faithfully impressed upon the skin, which once more assumed the shape and gesture its wearer bore in life. Protected from wind, sun, and fire, the remodelled skin was dried very slowly, and the corrosive sublimate caused it to stiffen without shrinking, till the form and features given to it by the artist became as firm set as if they had been carved in marble. This is the general principle of Waterton's discovery. The details of the process, and the modifications necessary in applying it to the various classes of animals,—quadrupeds, birds, reptiles, and insects,—are described by himself in the present volume. The superiority of his plan is signally displayed in his own magnificent collection. The specimens are the likeness of the creatures which God made, instead of the misshapen monstrosities which usually disgrace our museums. Some of his beautiful workmanship is more than half a century old, and the specimens still look as natural and fresh as when first put up.

Waterton had raised taxidermy from a sorry handicraft to an art, and for this very reason his system has not been extensively adopted. When he gives directions for preserving birds, he warns the learner that he must acquire the same knowledge of their anatomy that a great sculptor possesses of the human frame; that he must be perfectly acquainted with their general outline; that he must yet further be versed in the exact curvatures and proportions of the several parts; that he must be familiar with their attitudes, movements, and physiognomy. "Enter a museum, and you will probably," he said, "find that what was once a bird has been stretched, stuffed, and wired by a common clown." A plan which preserved the contour of every muscle, the convexities and concavities, the delicate lines of expression, the elasticity of surface, the truth and freedom of posture, was useless to stuffers who were ignorant of nature's pattern. The curators of museums, who have the power to commence a reform by encouraging study and observation, are usually themselves mere closet-naturalists. Immured among moth-eaten and distorted specimens, they come to think that the form of an animal is of little consequence. Not a few of them have barely any knowledge of anatomy, and to them all animals are alike in their internal organisation, for all contain straw. They take more delight in spying a spot of colour upon the wings of birds, or the hides of beasts, and in establishing what they are pleased to call a new species, than in contemplating the marvellous conformation, internal and external, of the animal world. No wonder that they espouse wild theories to account for the origin of species they have themselves invented. The time, nevertheless, must come when some great museum will do for the outside of animals what the Hunterian Museum of the Royal College of Surgeons does for their internal structure, and then Waterton's discovery will obtain the credit it deserves.

The second journey of Waterton terminated in 1817. He came back to England, stayed a few months, passed over to the Continent, again returned home, and continued to yearn for the distant forests of Guiana. He sailed for the New World in February 1820, and on arriving in Demerara, he established himself in a ruined house, formerly the home of his friend Mr Edmonstone. Here he once more gave himself up to the passion which possessed him,—the pursuit of Natural History. He scrutinised the habits of the creatures in their native wilds, carefully studied their anatomy, and applied his knowledge to endowing their skins with the form and animation of life. His delight in specimens free from flaws made him always ready to run risks in catching animals of prey without disfiguring their skins. His artistic zeal led him twice into a hazardous conflict with the coulcanara snake, or Bush-master. The negroes and Indians were accustomed to decapitate the monster, and the specimens in museums were completed by wooden heads, which were furnished with exaggerated false teeth the size of a tiger's. Waterton captured his snakes alive. The first was fourteen, the second ten feet long. He seized this last by the throat, and walked home grasping its neck with both hands, and with its folds tightly coiled round his body,—a victorious Laocoon. The details of these combats, which may be read in the "Wanderings," illustrate a predominant trait in his character. "Prudence and resolution," he said, "ought to be the traveller's constant companions;" and his caution was not inferior to his courage. His daring exploits were never the ebullitions of thoughtless foolhardiness. He took an accurate measure of the nature of the danger, and the energy with which he faced and foiled it was the boldness of calculation.

After staying some time at Mibiri, Waterton made an expedition up the Essequibo to observe the big alligators, or caymans, and to try and secure an unmutilated specimen. He travelled more than 300 miles, and when he reached their haunts he fished for them with a shark-hook. The alligators contrived to swallow the bait and leave the hook. An Indian was shown the shark-hook, shook his head, and laughed at it. He constructed a hook of a different pattern with pieces of wood, and it was soon firmly fixed in the jaws of an alligator more than ten feet long. The natives wanted to shoot him before they hauled him on to the bank, or he would rush at them, they said, and worry them. Waterton insisted that he should be pulled out alive, or his hide would be perforated. Wrapping the sail of his canoe round the end of the light mast, Waterton went down on one knee, and intended, if he was attacked, to thrust the spar down the throat of the open-mouthed cayman; but when the landing was effected, the quick eye of the naturalist perceived that the savage was cowed, and with a readiness of resource which never failed him, he flung down his mast, bestrode his prize with a leap, twisted the fore-legs on to the back, and, befriended by his early hunting experience, he managed to keep his seat till the plunging of the animal was succeeded by exhaustion. The detractors of Waterton viewed the incident in opposite lights, for some pronounced it impossible, and others insisted that it had too little danger to be chronicled for a feat. Anything is easy to certain people, provided they have not to do it themselves. With the example of Waterton to aid them, his valorous critics would probably have hesitated before vaulting on a ten-foot cayman, fresh from his native waters, and taking their chance of being thrown by his furious plunging, and killed by a snap of his jaws. Finding themselves in the company of a fierce old alligator, it is not unlikely that their first thought would have been how they could quickliest get off with a whole skin, which was the case with Waterton, only it was the cayman's skin, and not his own, that he was anxious to keep complete. He succeeded, and the reptile may be seen in his collection, with the hook which the Indian made by its side.

Waterton landed at Liverpool from his third journey in 1825, and was compelled to pay a custom-house duty of 20 per cent. on the value of his specimens. The Treasury had the power to remit a tax which was no advantage to the revenue, and which was most oppressive to the naturalist. An appeal was made to the Lords of the Treasury, and they exacted the uttermost farthing. Waterton was indignant at the wanton penalty imposed on his expenditure, toil, and dangers, and the contempt which was shown by the English Government for the interests of science. Every abuse of power has its victim, whose wrongs rouse indignation, and obtain for after-comers the justice denied to himself. Having mulcted Waterton, the Lords of the Treasury never ventured to repeat their barbarous conduct, and all the specimens of future travellers were admitted duty free. Enthusiasm long sustained has its alternations of reaction and lassitude, and a slight incident is often sufficient to determine the change. The harsh usage he received from the Treasury was the circumstance which damped for a time the ardour of Waterton. But the passion returns with rest, and the flame was re-kindled as easily as it was quenched. When Wilson's "Ornithology of the United States" fell into his hands, the naturalist revived in him. He was seized with a desire to see the birds which Wilson described, and he set sail for New York in 1824. He was delighted with the people and their institutions, and says, in one of his letters, that, in his opinion, no Englishman's education is complete till he has been to the United States of America. He went on to Canada, returned to the States, proceeded to the West Indies, and ended by re-visiting his favourite haunts in Guiana, where he renewed his old pursuits.

He got back to England in 1825, and in the same year he published the history of his travels, under the title of "Wanderings in South America, the North-West of the United States, and the Antilles, in the years 1812, 1816, 1820, and 1824." The pharisees of Natural Science stigmatised the author for an unscientific amateur, because he did not belong to any of their trades'-unions, because he had not disfigured his vigorous, idiomatic English with the jargon of systematists, and because he had studied nature in the forest, and not according to their vain traditions. They had overlaid the beautiful architecture of the animal world with a plaster of their own fabrication, and every one who laboured to unveil the true temple was, in their eyes, a rude, untutored Goth, who had not been initiated into the mysteries of academic technicalities and artificial systems. Few things are easier than to feign an hypothesis; nothing is more difficult than to establish a law of nature; and many in every generation aspire to the honours which belong to the discoverer on the strength of the ephemeral fallacies of the theoriser.

A more general objection was made to the adventure with the cayman, which critics of little perspicacity thought fabulous. Men of weak nerves do not plunge into primeval forests, and spend years in tracking wild beasts and serpents through tangled wilds. In such situations an admixture of the romantic is natural, and the want of it becomes the marvellous. The peculiarity of Waterton is, that he forebore to recount his inevitable perils. He pointed out that the dangers were far less than imagination would picture; he mentioned his severe illnesses with callous brevity, and was silent upon a thousand risks and difficulties which travellers are wont to relate with fond complacency. The sole occasion on which he departed from his rule was in the two or three battles he waged to procure perfect specimens, and he gave the particulars because they were connected in his mind with his Natural History, and not with his personal prowess. No one with the smallest discernment could have failed to see at a glance that his book bore the stamp of scrupulous exactness, and freedom from boasting. Sydney Smith was not deceived. He was always on the look-out for foibles upon which to exercise his satire and humour, and least of all spared false pretension. But in his laudatory article upon the "Wanderings" in the *Edinburgh Review*, there were none of the coarse imputations of obtuser critics. He was far too acute to be unable to distinguish a high-spirited English gentleman, enthusiastic in his pursuit of Natural Science, from an ostentatious charlatan, who, by force of being a liar, hoped to palm himself off for a hero. Waterton in his Autobiography threw down the gauntlet to his accusers, and they did not care to pick it up.

"I am fully aware that certain statements in the 'Wanderings' have procured me the honour of being thought nearly connected with the Munchausen family. Unenviable is the lot of him whose narratives are disbelieved merely for want of sufficient faith in him who reads them. If those who have called my veracity in question would only have the manliness to meet me, and point out any passage in the book which they consider contradictory or false, I would no longer complain of unfair treatment. If they can show that I have deviated from the line of truth in one single solitary instance, I will consent to be called an impostor; and then may the 'Wanderings' be trodden under foot, and be forgotten for ever. Some people imagine that I have been guilty of a deception in placing the nondescript as a frontispiece to the book. Let me assure these worthies that they labour under a gross mistake. I never had the slightest intention to act so dishonourable a part. I purposely involved the frontispiece in mystery, on account of the illiberality which I experienced from the Treasury * on my return from Guiana. I had

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* "TREASURY CHAMBERS, *May* 18*th*.

"GENTLEMEN,—

"The Lords Commissioners of His Majesty's Treasury, having had under their consideration your report of the 10th, on the application of Mr Charles Waterton, for the delivery, duty free, of some birds, quadrupeds, reptiles, and insects, collected by him in Guiana, and recently imported from Demerara, I have it in com-spent many years in trying to improve the very defective process universally followed in preparing specimens for museums. The reader will see by the letter signed Lushington that I was sentenced to pay pretty handsomely for my exertions. Stung with vexation at the unexpected contents of that peremptory letter, and annoyed at the detention of my collection, I determined not to communicate to the public the discovery which I had made of preparing specimens upon scientific principles; but, in order to show what I had done, I placed the nondescript in the 'Wanderings;' hoping that its appearance would stimulate to investigation those who are interested in museums. Should there be any expression in the 'Wanderings' by which the reader may be led to imagine that I wish to pass off this extraordinary thing either for the head and shoulders of a man, '*os homini sublime;*' or for those of an ape, '*Simia,—quam similis turpissima bestia nobis;*' it is my earnest desire that the said expression may be considered null and void. I have no wish whatever that the nondescript should pass for any other thing than that which the reader himself should wish it to pass for. Not considering myself pledged to tell its story, I leave it to the reader to say what it is, or what it is not.

"Some of my encounters with wild beasts may appear hairbreadth escapes, and very alarming things to readers at their own fireside; but to me, in the forest they appeared not so. We are told that death itself is not heeded when the battle rages. This I believe; for when honour, fame, or duty urge a determined man forwards, I apprehend that he knows not what it is to fear. Thus, the soldier marches boldly on, even to the cannon's mouth; the fox-hunter, in conscious pride, flies over the five-barred gate; and half way down Dover's cliff 'hangs one that gathers samphire.' But, I ask, would a 'pam-

mand to acquaint you that my Lords have informed Mr Waterton that, if he will specify the articles which he intends to give to public institutions, my Lords will not object to their being delivered duty free; but that, with regard to the specimens intended for his own or any private collection, they can only be delivered on payment of the *ad valorem* duty of 20 per cent.; and I am to desire you will give the necessary directions to your officers at Liverpool, in conformity thereto.

"I am, &c.

"(Signed) J. R. LUSHINGTON.

"Commissioners of Customs."

pered menial' storm the deadly breach? would a gouty alderman descend the rock of Ailsa, based by the roaring ocean, in quest of sea-fowls' eggs? No; their habits and their ailments would disable or prevent them; and, probably, nothing could induce them to face the apparent danger. Now, as for myself, I was well fitted out for adventures. I went expressly to look for wild beasts; and having found them, it would have been impossible for me to have refrained from coming in actual contact with them.

"I have only to repeat, that I particularly request those readers of the 'Wanderings' who may still doubt my word, to meet me in person, and then show me any passage in the book which they may suspect to deviate from the truth. It will give me pleasure to enter fully into the point in question; and I shall not have the slightest doubt of being able to convince them that they are wrong in their surmises. If they should refuse to comply with this my reasonable and just request, and still determine to consider me a disciple of the celebrated Baron, then to them I say, 'Gentlemen, fare ye well! In my conscience, I have laboured hard to please you, and to consult your taste; but I find that I have lost my time, and, I may add, my patience too. I humbly crave your forgiveness for having offered you food which has proved so very unpalatable to your stomachs. I will learn wisdom for the time to come; and I promise you that I will not throw my jewels to the sty a second time.'

"So far for the 'Wanderings.' Most part of the work was written in the depth of the forest, without the help of books, or the aid of any naturalist. I could not refrain from making a few observations on it ere I concluded these Memoirs,—Memoirs, by the way, from the pen of a private rover. Had our religion not interfered with our politics, my early days would probably have been spent in the service of my country. Then, no doubt, there would have been matter in these Memoirs much more interesting to the reader than that which is now submitted to his perusal.

"When I reflect that the faith of my ancestors has been most cruelly assailed for centuries by every man in power, from the Prime Minister of England down to the county magistrate; when I see it rising again triumphant in every part of the empire; and when I observe multitudes, in every rank of life, returning to its consoling communion, I call to mind, with infinite delight, those beautiful verses of Dryden :—

'A milk-white hind, immortal and unchanged,
Fed on the lawns, and in the forests ranged.
Without unspotted, innocent within,
She feared no danger, for she knew no sin.
Yet had she oft been chased with horns and hounds
And Scythian shafts, and many-wingèd wounds
Aimed at her heart ; was often forced to fly,
And doomed to death, though fated not to die.'

"I have made no mention of my political feelings in these Memoirs. My politics, indeed, claim little notice. Being disabled by Sir Robert Peel's Bill from holding even a commission of the peace, I am like a stricken deer, walking apart from the rest of the herd. Still I cannot help casting a compassionate eye on poor Britannia, as she lies on her bed of sickness. A debt of eight hundred millions of pounds sterling (commenced by Dutch William of *glorious* memory) is evidently the real cause of her distressing malady. It is a fever of the worst kind : it is a disorder of terrible aspect. It is a cancer, so virulent, so fetid, and so deeply rooted withal, that neither Doctor Whig nor Doctor Tory, nor even the scientific hand of Mr Surgeon Radical, can give any permanent relief to the suffering patient. Alas, poor Britannia ! it grieves my heart to see so fine a personage reduced to such a state. Thank Heaven ! we Catholics have had no hand in thy misfortunes. They have come from another quarter, where thy real enemies have had all their own way, and have played the game so sadly to thy cost.

"Here I terminate these Memoirs ; and I put away the pen, not to be used again, except in self-defence. Thus a musician of old (tired, no doubt, with scraping) hung his fiddle on the wall, and said,—

'Barbiton hic paries habebit.'

"WALTON HALL, *December* 30, 1837."

Here ends the first instalment of Waterton's Autobiography, published twelve years after his return from his last expedition to the forests. He has thus summed up the events of this time :—

"In 1829 I became the happiest man in the world; but it pleased Heaven to convince me that all felicity here below is no more than a mere illusive transitory dream, and I bow submissive to its adorable decrees. I am left with one fine little boy, who 'looks up to me for light;' and I trust that I shall succeed in imparting it to him; for my sister, Mrs Carr, and her invaluable husband, together with his aunts, Miss Edmonstone and Miss Helen Edmonstone, know no bounds in their affection to him, and in their good offices to myself, who stand so much in need of them.

"Since the year 1825, I have not been in the transatlantic forests, but have merely sauntered from time to time in Belgium, in Holland, and in Germany, with my above-mentioned sisters-in-law. I was in Belgium during the revolution for real liberty in religious matters. I went into the large square at Bruges to see the Belgians engage their enemies. As the balls whistled on all sides, I thought I might as well live to see the row another day; so, observing a door half open, I felt much inclined to get under cover: but, just as I arrived at the threshold, a fat old dame shut the door full in my face. Thank you, old lady, said I: '*Felix quem faciunt aliena pericula cautam.*'"

Waterton was married in the chapel of the English convent at Bruges. His wife was daughter of the Charles Edmonstone mentioned in the "Wanderings," and of whom he says in one of his letters that he was the greatest friend he ever had. This gentleman was a junior member of the ancient Scottish house of his name, and he spent the latter part of his life at Cardross Park, a place originally granted to his family by Robert Bruce. His best years were passed in Demerara. He was a tall man, with a martial countenance and commanding aspect, which did not belie his disposition, for he had headed fifteen expeditions against the Maroons. Honours and a pension were offered him by the Crown, and he modestly declined both. He had married a grand-daughter of the chief of the Arowak Indians, a tribe remarkable for delicate beauty. His daughter Anne was loveliness itself, and the mind which lighted up her features was worthy of its frame. The marriage of Waterton was supremely happy in everything except its brevity. Shortly after she had given birth to a son, Mrs Waterton died. Grief overpowered her husband, and for a week he spoke to no one. Religion gradually brought comfort to his mind, but he never sufficiently forgot his sorrow to be able to talk of her. He put up over the mantelpiece of the usual sitting-room a picture of Saint Catharine of Alexandria, which had some resemblance to her; and when he sat with his eyes fixed upon it, or was lost in reverie, those who were nearest to him knew what was in his thoughts.

Such recompense as earth could supply for his loss, Waterton found in the society of his sisters-in-law, who, at his earnest entreaty, came to live with him. He might have once more become a wanderer in the wilds of Guiana, if duty and affection to his son had not kept him at home. He had ceased to belong to himself, and his future travels were confined to excursions on the Continent. Two of these journeys are the principal subject of the sequel to the former part of his Autobiography, and his own narrative will now carry on the story.

"'Barbiton hic paries habebit."

'This beautiful line from Horace is the last in the last page of the former Essays. When I laid down the pen on the 30th of December 1837, I thought that I should never take it up again. But it has only slumbered for a few short years; and the reader will see in the preface to this second little volume, what 'has called it from the bed of rest.'* My adventurous bark is once more rash enough to try its fortune on the high sea of public opinion, where many a stouter vessel, better rigged and better manned, has met an awful and untimely fate.

"The first volume of Essays had not been much more than a year on the 'world's wide stage,' when I began to sigh for the comforts of a warmer sun; and I should have left these realms of 'Boreas, blustering railer,' to those who are fonder of his sway than I am, and have gone to the South, had not a letter from my friend Mr Ord, the accomplished biographer of poor Wilson, informed me that he was on his way from Philadelphia, to pass the summer with us. Upon the receipt of it, I gave up all thoughts of Italy and her lovely sky; and set about putting a finishing hand to my out-buildings, the repairs of which had been begun in 1834, and carried on at intervals. They are an immense pile, composing an oblong square of forty-five yards in length, and thirty-six in breadth, independent of the dog-kennel, fowl-house, sheds, and potato-vaults. They had been erected by my forefathers at different periods, when taxation was comparatively in its infancy, and good old English hospitality better understood than it is at the present day. These buildings were gradually going to ruin, through length of time and inattention to them during my absence; but they are now in thorough repair. Every department, from the sty to the stable, has been paved, and the pavement joined with Roman cement. In front of them there is a spacious area all of stone, and behind them a stone walk equally done with cement. The entire drainage consists of one master drain and two smaller ones tributary to it, and their mouths are secured by an iron grate, movable at pleasure. I have been particular in this description, from no other motive but that the reader might know by what process I have been able to banish the Hanoverian rat, for ever I trust, from these premises, where their boldness had surpassed that of the famished wolf, and their depredations in the long run had exceeded those of Cacus, who was known to have stolen all the milch cows of Hercules. The rats have made themselves so remarkably scarce, that if I were to offer £20 sterling money for the capture of a single individual in or about any part of the premises, not one could be procured. History informs us that Hercules sent the Harpies neck and crop into Stymphalus; and that Ferdinand and Isabella of Spain drove all the Moors back into Africa; and in our times we see thousands of poor Englishmen forced into exile by the cruel workings of Dutch William's national debt. When I am gone to dust, if my ghost should hover o'er the mansion, it will rejoice to hear the remark, that Charles Waterton, in the year of grace 1839, effectually cleared the premises at Walton Hall of every Hanoverian rat, young and old.

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* "The volume which I now present to an indulgent public is an unsolicited donation to the widow of my poor departed friend Mr Loudon."—*Preface to Essays, Series II.*

"The time had now arrived when my two sisters-in-law, my little boy, and myself, were to wend our way to the delicious realms of

Southern Europe. But I stop to narrate a circumstance which took place before our departure. It may probably be of considerable value in future cases of hydrophobia. As a police officer, by name Phelps, was going his night-rounds in the town of Nottingham, he heard a dog barking in a hole which had been dug for the foundation of a weighing-machine. His well-known humanity led him down to the place; and as he was lifting the dog up a little ladder which he had brought with him for the purpose of descent, he received from the animal a bite upon his upper lip and nose. The dog, on being delivered from his prison, ran away with speed, and was never heard of from that time. He must have belonged to some gentleman; for he was a pointer, and in too good condition to be the property of a gamekeeper. The wound which poor Phelps had received was dressed by a neighbouring surgeon, and nature did the rest. But some six or seven weeks after this, the officer began to feel that there was something wrong within him. He became better and worse alternately for two days; and then his disease showed itself with every mark of virulence. He said to those around him that he was going mad, and that it was all over with him: and then he let fall a tear as he mentioned his poor wife and children. After this, according to the minute account which was drawn out by Doctor Williams of Nottingham, he proceeded to the watch-house, and packed up his books which lay there; and turning to his companions, 'Good-bye,' said he to them; 'I shall never come here again.' And then he went to Mr Davison for medical aid. Mr Davison took him into his surgery, and on the poor officer getting sight of running water, he was seized with convulsions. All was done that could be done. The faculty of Nottingham, consisting of Doctor Williams, Doctor Percy, Mr Attenburrow, Mr Sibson, and Mr Davison, had soon arrived; and they put in practice whatever their well-known knowledge of medicine could suggest, or their pharmacy offer, to save this useful and respected man from an untimely grave. But all in vain. The terrible disease, with its concomitant horrors of spasmodic affection, baffled all their skill, and set their united science at utter defiance; for death was hurrying their patient with unrelenting fierceness to his last resting-place. Whilst things were in this deplorable state, an express was sent off to me late in the evening, and I proceeded to Nottingham without any loss of time, in hopes that the application of the wourali poison might be the means of rescuing poor Phelps from the fate which nothing in the practice of modern medicine seemed able to avert. When I had reached Nottingham with my friend Sir Arnold Knight, who had joined me at Sheffield, the unfortunate police-officer was no more. I saw him in his own house, lying on his back in bed, with his family weeping over his remains. Death had not changed his countenance, which had a serenity diffused throughout it, not to have been looked for in the features of one who had suffered so much. Poor Phelps was an honour and a credit to his employers, and I heard it remarked that the corporation of Nottingham would experience a great loss in being deprived of his trusty services. Indeed, there must have been something 'more than common in him,' as my Uncle Toby said of poor Le Fevre, for everybody in Nottingham seemed 'concerned for him.' Ere I left the town, I told the medical gentlemen present that I had business at home just then which called me back; but that I would return in a day or two; and that, if in the meantime they would muster their scientific friends in Nottingham, and from the country round, I would be ready with the wourali poison, and then we might see by experiment if it could be used with safety in case of hydrophobia and locked jaw.

"I revisited Nottingham on the day appointed; and we all went to the medical school, where the wourali poison was used before a crowded audience. The process tried was nearly the same as that which I have described in the 'Wanderings,' when the ass (which was called Wouralia ever after) was operated upon until it was apparently dead, and then restored—after which it lived at Walton Hall for four-and-twenty years in excellent health. On this occasion in Nottingham, two asses received the poisoned spike in the shoulder; and after yielding under the pressure of its destructive powers, they were both restored by the process of artificial respiration. The first trial was a very long one; and the operator, my worthy friend Mr Sibson, exerted himself in a manner that astonished all the company. The artificial respiration was kept up for seven hours, before the prostrate animal exhibited the least symptom of returning motion, and that was first observed in a momentary quiver of the eyelid. This ass died, I think, on third day after the experiment. But circumstances had intervened, to the influence of which its death might in part be attributed. The second case occupied a much shorter space of time, and was quite successful. The ass is still alive.

"Every person present seemed convinced that the virulence of the wourali poison was completely under the command of the operator; and that, by this artificial process, its malignant qualities could always be subdued. In a word, the company present came to the conclusion that it can be safely applied to a human being labouring under hydrophobia, one of the most terrible and fatal of all the diseases that have ever afflicted mankind. Mr Sibson has most wonderfully improved the bellows, and thus rendered the process much less laborious. He has by him a fair store of the very poison which I brought from the forests of Guiana in 1812. I myself have also a good supply of it, as pure and as potent as it was on the day in which I procured it.

"I wish it to be particularly understood that I do not claim for myself the merit of this discovery, should it prove successful. I certainly paved the way to it by going in quest of the poison, which I acquired in its pure state at my own expense, and at the cost of my health. But to Professor Sewell of the Veterinary College in London is due the merit of applying it in cases of hydrophobia. He was the first, I believe, who ever suggested the idea; and so certain was he of a favourable result, that I heard him declare before Sir Joseph Banks and a large company of scientific gentlemen, that were he unfortunate enough to be bitten by a mad dog, and become infected with hydrophobia, he would not hesitate one moment in having the wourali poison applied, as he felt confident that the application of it would prove successful. When all had been arranged at Nottingham relative to the application of the wourali poison in cases of hydrophobia, I took my leave of the gentlemen assembled, and returned home.

"Spring passed rapidly away, and when summer had set in, I began to make arrangements of a domestic nature for a visit to the Eternal City, not having been there since the year 1818. When I had finished the arrangement of my domestic affairs, I called up the gamekeeper, and made him promise, as he valued his place, that he would protect all hawks, crows, herons, jays and magpies, within the precinct of the Park during my absence. He promised me faithfully that he would do so; and then, wishing him a good time of it, I handed my two sisters-in-law, the Miss Edmonstones, into the carriage; I placed myself and my little boy by them; the two servants mounted aloft, and in this order we proceeded to Hull, there to catch the steamer for Rotterdam.

"I had a little adventure at Hull scarcely worth recounting, saving for its singularity. As I was standing at the window of the hotel, I saw an old and weather-beaten tar ruminating on the quay which flanks the Humber; and as I had nothing to do at the time, I thought I would go and have a little chat with him; and so I took my hat and went to the place where he was standing. 'This is nearly the spot, my honest tar,' said I to him, 'where I first embarked for Spain in the brig *Industry* of this port. It is just now forty years ago, and a rough passage we had of it to Cadiz; we were all but ashore, one dark night at Cape St Vincent. The captain's name was Lettus; but he must be dead and buried long ago, for he was then apparently quite at his best; and what with so long a war, and so many perils of the sea, no doubt he is safely stowed away in Davy's locker.' 'I saw him, sir,' said the tar, 'no later than yesterday morning.' 'And where is he?' said I. 'He is safely moored in the house for poor decayed sea-captains, and he is as well and as happy as is possible for a man of his years to be.'

"I bade my informer good-bye, and having stepped into the inn for my umbrella, as the weather threatened rain, I went down the street in quest of my old commander. I found him sitting on a bench facing the south, with a pipe in his mouth, and I recognised him at first sight, although disappointment, time, and poverty, had made deep furrows in his face. On asking him if he remembered the interesting affair he had with a brig bound to Vigo, about forty years ago, his eye brightened up, and he went through the whole story with wonderful minuteness. I then gave him a brief account of the many gales I had weathered since I bade him farewell at the sally-port in Cadiz; and he, on his part, told me that our mate, Mr Davis, had got drowned in the Baltic; and that he himself had continued to buffet the waves for a mere livelihood, till at last, old age and poverty had dismasted him; but that he was now safe in dock, thanks to the generous people of Hull; and that he would be comfortable there, in a good snug berth, with plenty of excellent food, till death should break his crazy vessel into pieces.

"Having settled the little demands against us at the Victoria Hotel, we went on board the *Seahorse*, and steamed for Rotterdam. Beautiful, indeed, is the former sedgy marsh of Holland, and rich the people who have drained and fertilised it. There is a placidity and frankness in the Hollanders which at once gain the good-will of the traveller on his first appearance amongst them. The uniformity of their country, and the even tenor of their tempers, appear as though the one had been made for the other. You may walk the streets of Rotterdam from light to dark without encountering anything in the shape of mockery or of rudeness.* I could see nobody pressing forward with a hurried pace up the street, as though the town were on fire behind him; nor a single soul whose haughty looks would give me to understand that I must keep at a respectful distance from him. No bird ever preened its plumage with more assiduity than the housemaid in Holland removes every particle of dust and dirt from the façade of her neat and pretty dwelling. It seemed to me that she was at work with her water-pail and broom from the beginning of the week till late on Saturday night.

"Had the sun shone with sufficient warmth and brightness, I could have fancied myself in the cultivated parts of Demerara,—a country once the pride of Holland, ere we broke in upon it during the revolutionary war with France, and changed the face of all that she had done before us. Our raising immense taxes, and the profligate expenditure of them, did neither suit the means nor the notions of these frugal colonists; whilst our overbearing demeanour as conquerors soon gave them to understand that it was time for them to go elsewhere. In 1824, when I last visited the wilds of Guiana, scarcely a Dutchman could be seen either in Demerara or in Essequibo. Numbers of my former foreign friends had sunk into the grave, and numbers had gone to join their brethren in Surinam, the last remaining colony of Holland on the *terra firma* of South America.

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* The manners of the Dutch have improved; for Ray, the naturalist, who travelled through the Low Countries in 1663, says, "As to what relates to the common people of Holland, it must be confessed they are surly and ill-bred, which is the reason that no strangers that know the country will deal with innkeepers, waggoners, boatmen, porters, and such like, without bargaining beforehand." My own experience agrees with Waterton's.—[ED.]

"The stork, whose shape and habits at once announce him to be a lover of swamps and quagmires, is carefully protected in Holland. The natives know his value ; and so good an understanding exists betwixt themselves and this bird, that he appears in the heart of their towns without the slightest symptoms of fear, and he builds his huge nest upon the flat of their chimney-tops.* Would but our country gentlemen put a stop to the indiscriminate slaughter of birds by their ruthless gamekeepers, we should not have to visit Holland in order to see the true habits of the stork, nor roam through Germany to enjoy the soaring of the kite,—a bird once very common in this part of Yorkshire, but now a total stranger to it.

"The Japan monsters shown in the museum at the Hague are clumsy fabrications. I could make better work with my left hand. The moth has perforated them to a great extent. 'Tis time, indeed, that they were cast out of the way. One of them put me in mind o Ovid's 'Famine,'—

> 'Hirtus erat crinis, cava lumina, pallor in ore,
> Labra incana situ, scabræ rubigine fauces.'

But a sight of Potter's bull repays one for the penance done in examining these mouldering imitations of what may be termed death alive.

"Celebrated as the museum at Leyden is in most of its departments, that of zoology, as far as preparation goes, is wretched in the extreme. It is as bad as our own in London, and we might fancy that Swainson had been there with his own taxidermy, marring every form and every feature. It is lamentable, indeed, that such celebrated naturalists as those of Leyden do not see their error in adhering to the old way of preparing specimens, or, seeing it, do not try to improve it. Their own knowledge of nature, and their innate powers of perception, ought to give them strong hints that the usual way of mounting specimens in zoology is unsound, and ought to be abandoned, and that some other plan must absolutely be adopted ere a single sample can be produced that would stand the test of scientific examination. The bird, with fresh-looking feathers on a shrunk and shapeless pinion; the quadruped, whose nose is dwindled into half its size; and the serpent, wrong at every fold, had far better be exhibited as mere skins, than be presented to public view bereft of every feature they possessed in life. As skins, at all events, we could look upon them with composure, and leave the room without disappointment.

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* "It is thought a very wicked thing to hurt them," says Southey, writing from Leyden in 1825. "They make their nests, which are as large as a great clothes-basket, upon the houses and churches, and frequently when a house or church is built, a wooden frame is made on the top for the storks to build in."—[Ed.]

"The change of religion in Holland threw its magnificent churches sadly into the background, and there they have remained ever since. Nothing can exceed the nudity and gloom of the great church in Haarlem, where the famous organ, that paragon of melody, is said to surpass every other organ in the known world. Whilst I was listening to its varied sounds, I thought of a nightingale pouring forth its own sweet song in an unfrequented hayloft. There is not a single pious ornament left in this church. The walls seemed damp and mouldy; and a ship or two in miniature, probably mementoes of some great naval victory, are seen suspended in the vast and vaulted void. But whatever may be the notions of these honest people concerning the value of holy objects to assist the mind of man during the time of his devotions, they have done everything for the comfort of the body throughout the whole extent of their country. Hence we see in Holland as fine country-houses, as lovely gardens, as well-regulated hotels, and as comfortable cottages, as any flesh and blood on earth can possibly wish for. I like the Dutch. I know of no country in Europe where human institutions appear to be upon a better footing. We ephemeral travellers, in passing through a country like butterflies on a sunny day, merely flutter over this flowery bank, or sip a drop of nectar on that lily at the side of the road; but I am persuaded, if we tarried in Holland for a sufficient length of time, and became acquainted with the chiefs of the land, we should have spacious stores of information opened to our view. The zoological treasures of private individuals from Java, and Sumatra, and Surinam, must be very valuable ; and the personal adventures of the Dutch in those remote countries are no doubt replete with instruction. Surinam, so famous for its far-extending forests, its rivers, plains, and swamps, is still possessed by Holland, as I have remarked above.

"Although Holland offers every comfort to the weary traveller, and every luxury to the epicure, we scarcely find an Englishman, not in commerce, who is resident in any part of this country ; whilst in Belgium, just at the other side of the ditch, a country so like unto Holland that it might be taken for Holland itself, English families swarm like congregated swallows towards the close of September. Our countrymen are fond of what they call seeing sights ; and there is undoubtedly a greater sphere for this in Belgium than there is in Holland, for Holland contracted hers considerably by gutting her churches and shutting their doors six days out of seven ; whereas the Belgians have preserved their religious ornaments, and they keep their churches open throughout the whole week. If we may judge by the crowds of Englishmen who are for ever sauntering up and down these Belgian churches, we must come to the conclusion that they are pleased with what they see. And still it can only be a feast for their eyes, as they know little or nothing of the ceremonies which are performed, or of the instruction which is imparted through the medium of pictorial representations. 'How have you got over your time, to-day?' said I, one afternoon to an acquaintance, who, like Mr Noddy's eldest son in Sterne, was travelling through Europe at a prodigious speed, and had very little spare time on his hands. He said that he had knocked off thirteen churches that very morning!

"Whilst myself and sisters-in-law were at Amsterdam admiring some of the pictures which form part of the immense treasures produced by the Dutch artists, my eye was riveted to the spot by one which will be gazed upon in after-times with extreme interest. The spectator will see represented, with great fidelity, an act of self-devotedness noways inferior to that which has rendered famous the name of a Roman light-horseman, who mounted his steed and rode it headlong into a yawning abyss in the Forum, by way of appeasing the wrath of the immortal gods. The name of this modern Curtius was Van Spek, commander of a brig of war in the Batavian service. During the late insurrectionary conflict with Belgium, this intrepid seaman, perceiving that all was lost, and that he could no longer command his vessel under his own national colours, he determined to blow it up and perish in the wreck. He disclosed his resolution to the crew, and told them to retire from danger when he should give the signal. Having invited as many Belgians as possible on board his devoted man-of-war, he made the promised signal to his men, and then went down below. There he struck a light, and applied it to the train which he had already prepared. In an instant the man-of-war blew up, and Van Spek and his enemies perished in the ruins. However Pagan history may sanction dismal facts like this, Christianity shudders at the very thought of them. Whilst we admire the determined courage of the Dutch commander, we lament that his patriotism should be stained by the commission of so foul a deed.

"Now that so many of our own swamps have been drained, and their winged inhabitants forced to disappear through hunger, or have fallen before the gun of the insatiate fowler, we must go to the morasses of Holland if we wish to improve our knowledge of water-fowl in their native haunts; for Holland is still very rich in water-fowl, and the naturalist may obtain his wished-for information there, in an enjoyable manner, and on easy terms.

"I saw much in Holland to put me in mind of Demerara at every step. The mildness, and urbanity, and good-humour of the inhabitants, had gained so much upon my feelings, that I felt a gloom come over me when I had arranged all to go to Antwerp—a fine old city, but not much to my taste. I had formerly known Monsieur Kats the naturalist; and on the morning after my arrival, I went down the Rue de Convent to shake him by the hand, and to have an hour or two in his museum. He had succeeded admirably in breeding and rearing the summer duck of Carolina. He told me that he seldom failed ot success, if he placed the eggs under a domestic hen; but that if he allowed the duck to sit on her own eggs, it was always a failure, for the newly-hatched birds were too delicate to go amongst the herbage with her, in this cold and variable climate. He showed me a huge baboon from the coast of Africa. This apparently half-reasoning brute would lay hold of a broom-staff, and manage to bring within his reach a crust of bread which had purposely been placed beyond the range of his chain. As the time of our departure for Bruges was close at hand, I thanked Monsieur Kats for his civilities to me, and then I bade him farewell.

"What is it that makes the Catholic town of Bruges so attractive to English families, many of whom have so unfavourable an opinion of the faith of their ancestors?

'Will the stork intending rest,
On the billows build its nest?
Does the bee derive its store
From the bleak and barren shore?'

No! Bruges, then, must have that within it which can afford the comfort and convenience denied to these good families in their own country; otherwise they would never think of leaving Old England, to take up a permanent abode in this place. To me Bruges has charms inexhaustible; and did my habits allow me to prefer streets to woods and green fields, I could retire to Bruges and there end my days.* Our second Charles was fond of Bruges. He became a member of its ancient society of archers, which still flourishes in its pristine vigour; and you may see the portrait of this regal profligate in the hall of the establishment, which you enter from the Rue des Carmes. In the same street is the renowned convent of English nuns, under the spiritual direction of the patriot Abbé de Foere, whose charities and talents are an honour to Belgium, and of vast advantage to the inhabitants of this fine old city. Would that some of the boarding-schools in our own country could turn to their profit the example of the watchful ladies in this holy establishment. Difference in faith need be no obstacle to scholastic arrangements.

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* Southey, who visited it in 1815, says in a letter to his friend Rickman, "Bruges is without exception the most striking place I ever visited, though it derives nothing from situation. It seems to have remained in the same state for above two hundred years: nothing has been added, and hardly anything gone to decay. The air of antiquity and perfect preservation is such, that it carries you back to the age of the Tudors or of Froissart."—[Ed.]

Into this convent no love-letters can ever gain admittance; nor has a scheming adventurer the smallest chance of coming at wealth, by laying plans to inveigle the unsuspecting victim into his snares. The generous nuns are unwearied in their exertions to prepare those intrusted to their charge, both for this life and for the next. There are members of my family—one, alas! no more—who have reason to bless the day in which they entered this elegant retreat of plenty, peace, and piety. The church of the convent is worthy of the name in every point of view; and its marble altar, originally from Rome, is a masterpiece of ornamental architecture. On the wall over the grate in the audience-room for visitors, there hangs a picture of a boy laughing at his own performance on the fiddle. So true is this to nature, that you can never keep your eyes from gazing on it whilst you are sitting there. Were thieving innocent, and the act injurious to none, I would set my brains at work how to purloin this fascinating picture; and then, if I succeeded in adding to it the representation of a dead bittern suspended by the leg in the Academy of Arts, I would consider myself owner of two paintings, at which you might gaze and gaze again, and come again and gaze, and never feel fatigued with gazing at them.

"At the fatal period of the suppression of monasteries in Belgium, when Joseph II. had plundered their treasures and dispersed the monks, his government was so fearful of public execration, and of the consequences arising from a proceeding so unjust, that it actually hired wretches from the lowest of the people, and clothed them in the habits of the exiled religious. Under this scandalous disguise, they were made drunk, and went up and down the streets as monks, to show the people how glad they were to be released from their religious vows.

"At Ghent there is a splendid show of osteology in the museum, under the scientific direction of Monsieur de Dutys, whose urbanity and knowledge of Natural History enable his visitors to pass many a pleasant hour in the apartments. When the monks flourished in this city, there was a huge chaldron called St Peter's pot. Above half an ox, with the requisite vegetables, was boiled in it every day, and distributed gratis to the poor of that district. When a couple were to be married, the curate never inquired what means they had of support, if they assured him that they had access to St Peter's pot. Times are altered. Pikes and halberds now glitter on the spot where once this savoury chaldron used to boil.

——'Fugêre pudor, verumque, fidesque,
In quorum subêire locum, fraudesque dolique.'

"In Ghent, too, is the Béguinage, a convention of females who assemble for public prayer every day in a handsome church belonging to the establishment. They are not recluses, nor under the observance of perpetual vows. It is a kind of partial retirement for them from the disgust or fascinations of a cheating world. They pass their time in doing good works and in holy prayer, far removed from the caustic gossip of the tea-table, or from the dissipations of nocturnal gadding. It was a Béguine who attended Corporal Trim so charitably, after he had got wounded in the knee at the battle of Landen.

"But it is time to travel onwards. Were I to tarry long in the different abodes of art and science in this interesting country, I should terrify the reader by the apparition of two large volumes at least: whereas, it is only my intention to present him with one of small extent, like the song of the storm-cock in the month of December. I must skip from Ghent to Aix-la-Chapelle, and just remark, as I am going on, that the valley of the Meuse, on a fine warm day in July, appears as rich, and beautiful, and romantic, as any valley can well be on this side of ancient paradise.

"And still I must not leave Dendermond behind me, without a few words on the most feeling and pathetic story ever told by the tongue of man. Who can halt in Dendermond, and not bethink him of my Uncle Toby in England, when he took his purse out of his bureau, and went to befriend Lieutenant Lefevre, who was sick at the inn? Or who can fancy this dying soldier, casting his last look upon his weeping boy, without taking out his handkerchief to dry his own eyes? Or who, in fine, can be unmoved, when he sees the poor orphan youth receiving his late father's sword from the hand of his kind benefactor? How forcibly all this speaks to the soul! and 'how beautifully it shows the heart of one, in whose looks, and voice, and manner superadded, there was something which eternally beckoned to the unfortunate to come and take shelter under him!'

"Aix-la-Chapelle stands unrivalled in the efficacy of its medicinal waters. I say unrivalled; for although fashion and interest may extol the great advantages to be derived from other spas in Germany, I am satisfied that every one of these advantages are to be found at Aix-la-Chapelle; and that they would be reaped most abundantly, were it not that their salutary effect is neutralised by the dainty cheer, prepared with an unsparing hand, in every hotel of note in this much-frequented town.* Here it is that we see people of dilapidated frame sitting down to a dinner which might vie with Ovid's description of Chaos in its materials, and in the nature of them.

> 'Frigida pugnabant calidis, humantia siccis,
> Mollia cum duris, sine pondere habentia pondus.'

"As the partaker of this heterogeneous display of aliment has to pay for admission to it, he considers that he is entitled to value for value; and under this impression, his jaws belabour his stomach so unmercifully, that all advantage to be derived from the medicinal waters is completely lost; and his constitution gains nothing in the end for the trouble and expense of a visit to Aix-la-Chapelle. Physicians may write what they please, and prescribe any mode they choose; but until they can compel their patients to be moderate on plain diet, there will be little or nothing effected in the way of a permanent cure.

"Nothing can be more charming, in warm and sunny weather, than the rural walks on the wooded hill of Louisberg, just above the town. When you are sitting on the bench at the top near the column, and casting your eye on the surrounding scenery, you will say that, as a whole, there cannot be a finer or a richer sight. The Ardennes appear to great advantage. At my last visit to the Louisberg, a pair of ravens came and soared over my head, and exercised their various aerial evolutions for more than an hour, and then winged their flight towards the Ardennes. As I watched their risings and their lowerings, home rushed on my imagination, and I bethought me of the rascally cobbler who desecrated the Sunday morning by robbing the last raven's nest in this vicinity. A willow wren, larger, and of brighter colours than our own, sang sweetly, although the season was far advanced; and the black redstart was for ever flitting from stone to stone on the ruined walls of the hotel, which had been consumed by fire during the preceding year.

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* The people of Aix-la-Chapelle for many previous generations appear to have been attentive to the choiceness of their food. Principal Carstairs was there in 1685, and mentions, among their peculiar customs, "that when there is a very good and fat ox to be slain by a butcher, he is led through the town, decked with flowers, and a pipe playing before him, that the people may see him, and be induced to buy pieces of him."—[Ed.]

"The sun had now descended into the southern world; whilst the winds of autumn drove the falling leaves before them, and showed us that it was time to leave the cloudy atmosphere of Rhenish Prussia. The Rhine too, had but few of its summer beauties left, although we found at Strasburg a warmer sun than what we had expected. Indeed, it was here that old Boreas gave up the pursuit; for, had it not been that we encountered a keen and cutting wind as we approached the summit of the Splugen, we should have enjoyed, all the way from Strasburg, the genial warmth of a mild and sunny autumn.

"At Freyburg, where we passed a couple of days, the climate was truly delicious; and as the vintage had only just commenced on the day of our arrival there, all was joy, festivity, and mirth. There was a German waiter at the hotel, of extraordinary talent for acquiring languages; he said he had never been in England, nor much amongst Englishmen, but that he had written a description in English poetry of their own cathedral. On saying this, he offered me a little pamphlet, containing an excellent engraving of that superb edifice, by way of frontispiece. As I looked over the pages, I found in their contents matter much superior to anything that I could have expected from the pen of a German waiter at an inn. Having complimented him on the successful study of a language by no means of easy acquisition even to a native, I paid him the price which he had asked for his work, and I put it in my portmanteau for future investigation; but it now lies in the wreck of the *Pollux* at the bottom of the Mediterranean Sea.

"I had expected to have a sight of some of our rarer European birds in my passage across the Alps; and in order to have a better chance of success, I got out of the carriage, and travelled onwards on foot. But I saw none; the earth appeared one huge barren waste, and the heavens produced not a single inhabitant of air to break the dull monotony around us.

"Charming is the descent down the southern side of the Alps; every day brought us a warmer climate with it, and gave us a foretaste of the delightful temperature to be enjoyed in the delicious air of an Italian autumn. As we were advancing slowly up a little ascent in the road, my sister-in-law, Miss Helen Edmonstone, who had just been looking out of the window of the carriage, remarked, with a considerable archness of countenance, 'I am sure that we are in Italy now.' Thinking that there was something more than common by the way in which this remark had been uttered, I cast my eye along the road behind us, and there I saw a matronly-looking woman, with her fingers in full chase amid the long black hair of a young damsel, apparently her daughter. 'I agree with you, Miss Helen,' said I. 'We are in Italy, there can be no dobut of it; probably in parts of this country combs are not so plentiful as they are with us. They must have been scarce in the time of Horace, for he remarks of Canidia, *crines et incomptum caput.*'

"There was nothing in any of the museums which I visited to show that an advancement had been made in the art of preserving specimens for Natural History. In that of Bologna, I saw two male turkeys with a very thick and long tuft of feathers on their heads; their necks were bare. I was informed that these strange-looking birds were mere varieties of the tribe, and that they had been reared from the egg in the immediate vicinity.

"At Florence, my old friend Professor Nesti showed us through the well-stored apartments of the public museum; we had not seen each other for more than twenty years. As I looked at him, I could perceive that age had traced his brow with furrows; and he, no doubt, must have observed that Time's unerring hand had been employed upon my own for a similar purpose. Professor Nesti first introduced me to the celebrated sculptor Bartolini of Florence. On calling at his studio, after an absence of twenty years, I found him at work on a classic group, which he had composed with great taste, and was finishing in the first style of elaborate sculpture. The group consisted of Andromache in the imploring attitude of utter despair, whilst the unfeeling conquerors of Troy were in the act of throwing her poor boy Astyanax over the battlements.

"I was invited to see in Florence a bird, a mouse, and a piece of heart and liver, which by a chemical process (only known to the inventor) had become as hard as stone. I had been given to understand that I should find the bird and mouse as perfect in their form as when alive; but upon examination, the anatomy appeared shrunk and injured, the plumage of the bird and the fur of the mouse were wrong at all points, so that I left the room with disappointment in my looks. Probably corrosive sublimate had been the chief agent in causing these substances to become so very hard.

"Although I was much on the watch for birds from Florence to Rome, I saw very few indeed; some dozens of coots on the waters, a heron or two rising from the marshes, with here and there a noisy blackbird rushing from the bush on the road-side, and a scanty show of hooded crows passing from tree to tree, were nearly all there was to tell us that animated nature had not entirely abandoned the parts through which we were travelling.

"I had a little adventure on the road from Baccano to Rome not worth relating, but which I deem necessary to be introduced here in order that some of my friends in the latter city, and others in England, may not give me credit for an affair which deserves no credit at all. These good friends had got it into their heads that I had reached Rome after walking barefoot for nearly twenty miles, in order to show my respect and reverence for the sacred capital of the Christian world. Would that my motive had been as pure as represented! The sanctity of the churches, the remains of holy martyrs which enrich them, the relics of canonised saints placed in such confusion throughout them, might well induce a Catholic traveller to adopt this easy and simple mode of showing his religious feeling. But, unfortunately, the idea never entered my mind at the time: I had no other motives than those of easy walking and of self-enjoyment The affair which caused the talk took place as follows:—

"We had arrived at Baccano in the evening, and whilst we were at tea, I proposed to our excellent friend Mr Fletcher, who had joined us at Cologne, that we should leave the inn at four the next morning on foot for Rome, and secure lodgings for the ladies, who would follow us in the carriage after a nine o'clock breakfast. Having been accustomed to go without shoes month after month in the rugged forests of Guiana, I took it for granted that I could do the same on the pavement of his Holiness Pope Gregory the Sixteenth, never once reflecting that some fifteen years had elapsed from the time that I could go barefooted with comfort and impunity; during the interval, however, the sequel will show that the soles of my feet had undergone a considerable alteration.

"We rose at three the morning after, and having put a shoe and a sock or half-stocking into each pocket of my coat, we left the inn at Baccano for Rome just as the hands of our watches pointed to the hour of four. Mr Fletcher having been born in North Britain, ran no risk of injuring his feet by an act of imprudence. The sky was cloudless and the morning frosty, and the planet Venus shone upon us as though she had been a little moon. Whether the severity of the frost which was more than commonly keen, or the hardness of the pavement, or perhaps both conjoined, had deprived my feet of sensibility, I had no means of ascertaining; but this is certain, I went on merrily for several miles without a suspicion of anything being wrong, until we halted to admire more particularly the transcendent splendour of the morning planet, and then I saw blood on the pavement; my right foot was bleeding apace, and on turning the sole uppermost, I perceived a piece of jagged flesh hanging by a string. Seeing that there would be no chance of replacing the damaged part with success, I twisted it off, and then took a survey of the foot by the light which the stars afforded. Mr Fletcher, horror-struck at what he saw, proposed immediately that I should sit down by the side of the road, and there wait for the carriage, or take advantage of any vehicle which might come up. Aware that the pain would be excessive so soon as the lacerated parts would become stiff by inaction, I resolved at once to push on to Rome; wherefore, putting one shoe on the sound foot, which, by the way, had two unbroken blisters on it, I forced the wounded one into the other, and off we started for Rome, which we reached after a very uncomfortable walk. The injured foot had two months' confinement to the sofa before the damage was repaired. It was this unfortunate adventure which gave rise to the story of my walking barefooted into Rome, and which gained me a reputation by no means merited on my part.

"When we left the shores of England, we determined to spend two years in Rome, reserving to ourselves the privilege of retiring from it when the unwholesome season would make a longer stay there, neither safe nor any ways agreeable. We set apart this period for a visit to Naples, as it would be a good opportunity to see the liquefaction of the blood of St. Januarius, a prodigy which has given rise, almost time out of mind, to every possible conjecture throughout the whole of civilised Europe. Everything else in the shape of adventures appears to me to be trivial and of no account. I here state, in the most unqualified manner, my firm conviction that the liquefaction of the blood of St Januarius is miraculous beyond the shadow of a doubt. Were I to conceal this my conviction from the public eye I should question the soundness of both my head and heart, and charge my pen with arrant cowardice. Nothing in the whole course of my life has struck me so forcibly as this occurrence.

"Rome, immortal Rome, replete with everything that can instruct and please, is the resort of travellers from all parts of the known world. They have so deluged the press with accounts of its economy, its treasures, and antiquities, that there seems nothing left for future tourists whereon to exercise their pens. For my own part, having seen most of the curiosities full twenty years ago, I did not feel much inclined on this occasion to renew my acquaintance with many of them, especially as I found the temperature of the galleries and palaces anything but genial. Still I got a sight of some things which have made a lasting impression on me; one of these was the titulus which was fixed over the head of our dying Saviour; a most learned rabbi of our days has proved its authenticity, if any new proof were wanting; for the historical records at the time of its being brought to Rome are so clear and positive that no one who has any faith at all in history can doubt that this identical piece of wood is the same that was used on the cross, when our blessed

Lord suffered for the sins of the world. The wood itself is sycamore, and the words appear as though they had been cut hastily into it by some sharp-pointed instrument.

"I fear the world will rebuke me when I tell it, that instead of ferreting out antiquities and visiting modern schools of sculpture and of painting, I passed a considerable portion of my time in the extensive bird-market of Rome. I must however remark, that the studio of Vallati, the renowned painter of wild boars, had great attractions for me; and I have now at home, a wild boar done by him in so masterly a style, and finished so exquisitely, that it obtains unqualified approbation from all who inspect it.

"The bird-market of Rome is held in the environs of the Rotunda, formerly the Pantheon. Nothing astonished me more than the quantities of birds which were daily exposed for sale during the season; I could often count above four hundred thrushes and blackbirds, and often a hundred robin red-breasts in one quarter of it; with twice as many larks, and other small birds in vast profusion. In the course of one day, seventeen thousand quails have passed the Roman Custom-house; these pretty vernal and autumnal travellers are taken in nets of prodigious extent on the shores of the Mediterranean. In the spring of the year and at the close of summer, cart-loads of ringdoves arrive at the stalls near the Rotunda. At first the venders were shy with me; but as we got better acquainted, nothing could surpass their civility, and their wishes to impart every information to me; and when they had procured a fine and rare specimen, they always put it in a drawer apart for me. These bird-men outwardly had the appearance of Italian banditti, but it was all outside and nothing more; they were good men notwithstanding their uncouth looks, and good Christians too, for I could see them waiting at the door of the church of the Jesuits, by half-past four o'clock on a winter's morning, to be ready for the first mass.

"I preserved eighty birds, a porcupine, a badger, some shell-fish, and a dozen land tortoises whilst I was in Rome; and these escaped the shipwreck by having been forwarded to Leghorn, some time previous to our embarking at Civitâ Vecchia for that port.

"Whilst we were viewing the lofty fragment of a wall which towers amid the surrounding ruins of Caracalla's baths, I saw a hole in it which is frequented by the large owl of Europe. A fearless adventurer had managed to get a young one out of it the year before, and he had sold it to the gardener at the Colonna palace, who kept it alive in the pleasure-grounds; and there I paid it a visit generally once a week. Another pair of these noble wanderers of night is said to inhabit the enormous outworks at the top of St Peter's. These birds are very scarce in this part of Italy.

"As you enter Rome at the Porta del Popolo a little on your right, is the great slaughter-house, with a fine stream of water running through it. It is probably inferior to none in Italy for an extensive plan, and for judicious arrangements. Here some seven or eight hundred pigs are killed on every Friday during the winter season. Nothing can exceed the dexterity with which they are despatched. About thirty of these large and fat black pigs are driven into a commodious pen, followed by three or four men, each with a sharp skewer in his hand, bent at one end, in order that it may be used with advantage. On entering the pen these performers, who put you vastly in mind of assassins, make a rush at the hogs, each seizing one by the leg, amid a general yell of horror on the part of the victims. Whilst the hog and the man are struggling on the ground, the latter, with the rapidity of thought, pushes his skewer betwixt the fore leg and the body, quite into the heart, and there gives it a turn or two. The pig can rise no more, but screams for a minute or so, and then expires. This process is continued till they are all despatched, the brutes sometimes rolling over the butchers, and sometimes the butchers over the brutes, with a yelling enough to stun one's ears. In the meantime, the screams become fainter and fainter, and then all is silence on the death of the last pig. A cart is in attendance; the carcases are lifted into it, and it proceeds through the street, leaving one or more dead hogs at the doors of the different pork shops. No blood appears outwardly, nor is the internal hemorrhage prejudicial to the meat, for Rome cannot be surpassed in the flavour of her bacon, or in the soundness of her hams.

"A day or two after our arrival in the Eternal City, Fathers Glover and Esmonde, of the Professed House of the Society of Jesus, came to see me. We had been school-fellows together, some forty years before, at Stonyhurst in England, and our meeting was joyous in the extreme. Nothing could exceed the disinterested friendship which these two learned and pious disciples of St Ignatius showed to us during our stay in Rome. Father Glover became our spiritual director. The care which he took to form the mind of my little boy, and the kind offices which we were perpetually receiving at his hands, can only be repaid, on our part, by fervent prayers to Heaven that the Almighty may crown the labours of our beloved foster parent, with the invaluable reward of a happy death. When my foot had got well, after a long and tedious confinement, Father Glover introduced me to the present General of the Society of Jesus. He is a native of Holland; so engaging is his deportment, so mild is the expression of his countenance, and so dignified is his address, that it was impossible not to perceive immediately that I was in the presence of one eminently qualified to be commander-in-chief of the celebrated order, the discerning members of which had unanimously placed him at their head.

"I had long looked for the arrival of the day in which the Roman beasts of burden receive a public benediction. Notwithstanding the ridicule thrown upon this annual ceremony by many a thoughtless and censorious traveller, I had figured in my own mind a ceremony holy in itself, and of no small importance to the people at large. "*Benediciie omnes bestiæ et pecora Domino!*" I conceived that the blessing would insure to these poor dumb animals a better treatment at the hands of man than they might otherwise receive; and the calling upon our kind Creator to give His benediction to a horse, which, by one false step, or an unruly movement, might endanger the life of its rider, appeared to me an act replete with Christian prudence. I recalled to my mind the incessant and horrible curses which our village urchins vent against their hauling horses on the banks of the Barnsley canal. This aqueous line of commerce passes close by my porter's lodges; and as the first lock is only a short distance from them, the horrid din of curses commences there, and is kept up by these young devils incarnate from week to week (Sundays not excepted) with the most perfect impunity.

"At last the day arrived on which the beasts of draught and burden were to receive a benediction from the hand of a priest at the door of St. Anthony's church. The sun shone brightly, and the scene was truly exhilarating. Every horse, and mule, and ass, was decked out in splendid colours, and in trappings corresponding with the means of their owners, whose faces bespoke the joy of their hearts, and whose orderly conduct, at once proclaimed the religious feeling which had brought them to the place. When the animals had received the benediction, they passed onwards with their masters, to make room for those behind them; and this was the order of the day, until the last blessing upon the last animal brought the exhibition to a close.

"As this scene of primeval piety was going on, an English gentleman, with whom I had a slight acquaintance, and who was standing by my side, remarked that he was tired with looking at such a scene of superstitious folly. 'If it be folly,' said I, in answer to his remark, 'to give a blessing to an animal in one shape, it is certainly folly to pronounce a benediction upon an animal under another. And still we all do this in England, and in every other Christian country. Where is the well-regulated family which, on sitting down to a leg of boiled mutton and caper sauce, does not beg the blessing of Almighty God upon it, through the mouth of the master of the house, or by the ministry of a clergyman, if present? "*Benedicite, omnia opera Domini, Domino!*" Who ever thinks of cutting up a young roasting-pig, immersed in delicious gravy, and hot from the kitchen, without asking a blessing on it?—"Bless us, O Lord, and these thy gifts!"'

"When the returning warmth of summer has filled the upper air in the streets of Rome with multitudes of swifts and house-martins, the idling boys manage to capture these useful visitors by a process at once surprisingly simple and efficacious. They procure a silken line of sufficient length to reach above the eaves of the houses. To one end of this they attach a small curled feather or two, and behind these is formed a running noose. This apparatus is taken up into the air by the current of wind blowing through the street; and as the poor birds are on the look-out for materials wherewith to line their nests, they strike at the floating feathers, and get their necks into the fatal snare, and are taken to the bird-market at the

Rotunda for sale. This ornithological amusement is often carried on in the street of the Propaganda during the months of May and June.

"After the benediction by the sovereign pontiff from the portico of St. Peter's has given the world to understand that all the ceremonies of holy week are over, the strangers take their departure from Rome with a precipitation as though the pestilence had shown itself within her walls. We, however, determined to prolong our stay, wishing to be present at the services during the month of May, the whole of which delightful time is dedicated to devotions in honour of the blessed Virgin. It is called in Rome, 'the month of Mary;' and these devotions are performed in the church of the Jesuits with a magnificence worthy of the occasion. The beautifully arranged blaze of innumerable candles on the high altar; the heavenly music; the fervent prayers of the people, and the profound attention of the officiating Fathers, all tended to make a deep and a lasting impression on my mind.

"Our prolonged stay gave me an opportunity of collecting specimens of those birds of passage so rarely to be seen in our own land, and scarcely ever acquired in a state fit for preparation. We had the golden oriole, the roller, the bee-eater, the spotted gallinule, the least of the water-rails, the African redstart, the hoopoe, the egrette, the shrikes, and several varieties of the quail, and I procured an adult pair of the partridge of the Apennines in superb plumage.

"Thus did time glide on, every day producing something new to engage the attention of my indefatigable sisters-in-law, and to give me sufficient occupation in ornithology, so that we felt somewhat low in spirits when the day arrived on which we were to take our departure for Naples. I saw more birds on the route from Rome to Naples than I had observed in the whole of the journey from England. Kites and common buzzards, sparrow-hawks and windhovers, were ever on the wing in the azure vault above us.

"As we were resting our horses at a little inn on the side of the road, I had a fine opportunity of getting close to a very large herd of Italian buffaloes. These wild-looking animals have got a bad name for supposed ferocity, and when I expressed my determination to approach them, I was warned by the Italians not to do so, as the buffaloes were wicked brutes, and would gore me to death. Having singled out a tree or two of easy ascent where the herd was grazing, I advanced close up to it, calculating that one or other of the trees would be a protection to me, in case the brutes should prove unruly. They all ceased eating, and stared at me as though they had never seen a man before. Upon this, I immediately threw my body, arms, and legs into all kinds of antic movements, grumbling loudly at the same time; and the whole herd, bulls, cows, and calves, took off, as fast as ever they could pelt, leaving me to return sound and whole to the inn, with a hearty laugh against the Italians.

"After I had seen the ram of Apulia in Naples, I no longer considered Homer's story of Ulysses with the sheep of Polyphemus so very much out of the way.*

"We took the advantage of a fine steamer for Sicily, but not with any intention of staying there, as our projected return to Rome would merely admit of a transient visit to that renowned island. I had long wished for an opportunity to see Scylla and Charybdis; the first, so notorious formerly for the howling of her dogs under water,—

> 'Scylla rapax canibus, Siculo latrare profundo;'

the second, terrible for its hostility to ships,—

> 'Ratibusque inimica Charybdis.'

"Stromboli's smoking crater was seen in the distance, as we were advancing to these famous straits. But I was sadly disappointed with their appearance, for they showed nothing of that tremendous agitation so forcibly described by the ancients. I concluded at last, that either the poets had availed themselves of the licence which has always been accorded to those who drink the waters of Helicon, or that these two ferocious whirlpool genii had left their favourite residence and gone elsewhere. Indeed, I soon found to my cost that they had settled in the passport offices of Sicily, for I was all but worried alive there. The hungry inmates had found a flaw in my Neapolitan passport. It consisted merely of the omission of the word 'return.' This was a windfall for their insatiate cravings; and I had either to administer to their appetites, or to give up all thoughts of leaving the island, as the negligence of the authorities in Naples had subjected me to take out a new passport in Sicily. Thus I had first to pay at one office and then at another; to wait here, and to expostulate there; so that, what with the heat of the sun, and the roughness of the pavement, and the payment of fees, I could not have been much worse off had I been sucked into the vortex of the old straits themselves. In a word, there was no helping myself, and no mercy shown, although I cried out most feelingly—

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* When Ulysses and his companions had succeeded in extinguishing the eye of the Cyclops, the blind monster stretched his arm across the mouth of the cavern that they might not escape by passing out with his sheep. To elude his precautions, Ulysses tied sets of three rams together, and under the middle ram of each set he bound a comrade, who was thus flanked by the outside animals. Ulysses himself was content with a single ram, the biggest of the whole—so big, that, hanging beneath its belly, and clasping its neck, with his hands buried in its wool, he escaped detection, although the Cyclops stopped this king of the flock to stroke it affectionately.—[ED.]

> 'Solvere quassatæ parcite membra ratis.'

The vexations at the passport offices deduct considerably from the pleasure of a tour through the insular dominions of his Neapolitan majesty.

"I can fancy that Sicily must afford a magnificent treat to the votaries of ornithology both early in April and at the close of September, as the European birds of passage, in coming to the north, and in retiring from it, are known to pass in great quantities through this island. A person with a good telescope, and in a favourable situation, would have it in his power to mark down the many different species of birds which wing their way to this quarter; and I can conceive that the family of hawks, especially the *Windhover*, would be very numerous.

"In Sicily we saw an exhibition, the recollection of which haunted me like a spectre for many a week afterwards. It might be termed a melancholy parade of death decked out in a profusion of gay and splendid colours. I could not comprehend by what species of philosophy these islanders had brought themselves to the contemplation of objects once so dear to them, but now shrunk into hideous deformity, and seeming, as it were, to ask for a removal from a situation which ill befits them, and which has robbed the grave of its just and long-acknowledged perquisite. This abhorrent spectacle is no other than that of the dead brought from what ought to be their last resting-place, where the dryness of the climate has preserved their flesh from rotting. They were decked out in magnificent attire; but death had slain their beauty; their god-like form was gone, and the worm had left upon them disgusting traces of its ravages.

'Matres, atque viri, defunctaque corpora vitâ.'

"We saw what once had been fine young ladies, and elderly matrons, and fathers of families, in dresses fit for a convivial dance; and we might have imagined that they were enjoying an hour of repose till the arrival of the festive time. But when our eyes caught the parts not veiled by the gorgeous raiment, oh, Heavens! there, indeed, appeared death in all his grisly terrors. I had never seen any sight in my life, before this, so incongruous, so mournful, so dismal, and so horrifying. These shrunk and withered remnants of former bloom and beauty, brought to my mind the exhibitions of stuffed monkeys which we see in our own museums, with this difference only, that the monkeys have glass eyes most unnaturally starting from their sockets, whilst the hollow sockets of the Sicilian mummies contain a withered substance, discoloured and deprived of all the loveliness that life had once imparted to it.

"The churches in this delicious island surpass even those of Rome in the variety of rare and costly marble ornaments. The horns of the cattle are of surprising length.

"We left Sicily under the full impression that we ought to have remained there for three or four months; but this could not be accomplished; so, on our return to Naples, having paid a farewell visit to Virgil's tomb, we left this laughing, noisy, merry city on a fine and sunny morning, to enjoy, for eight or nine months more, the soothing quiet of the Roman capital. To ourselves, as Catholics, a prolonged sojourn in the eternal city was of infinite value. The venerable Cardinal Fransoni had been unremitting in his attentions to us; whilst his pious secretary, il Signore Canonico Natanaele Fucili, showed a friendship for us as though our acquaintance had been of very long standing. My little boy was so fond of this amiable gentleman, and so devoted to His Eminence, that he would be in the Propaganda whenever an opportunity offered.

"But the church of the Gesù was the chief place of our daily resort. My little boy might be said to have lived in the convent. Its professed fathers and its lay brothers were unbounded in their acts of friendship to him, and in imparting to him instructions the most invaluable and important at his tender time of life. The 'English angelino,' as these good religious called him, never appeared to such advantage as when engaged in the sacred ceremonies at the church of the Jesuits. The decorum which is punctually observed in this splendid edifice renders it a place of universal resort, whilst the punctuality in the daily performance of divine service is beyond all praise. The doors are opened precisely at five o'clock of every morning in the year, but many masses are said before that hour.

"I would often in the morning, whilst waiting for the opening of the church doors, ask some of the good souls assembled there, what it was that made the Jesuits such universal favourites with the people. I invariably received for answer that, although the other religious orders were very good and attentive to them, yet the fervour, and charity, and attendance, of these fathers were carried to a still higher degree; and that, during the cholera, their exertions were beyond all praise, for they were seen in the most infected parts of the city, both day and night, performing acts of charity and piety in every shape imaginable.

"Formerly the church of the Jesuits possessed many fine paintings by masters of the first celebrity, but barbarity and injustice deprived the fathers of these inestimable treasures. The cause of their disappearance from the corridors of the Gesù does honour to the heart of man. They were sold for the maintenance of the aged Portuguese and Spanish missioners who had been most cruelly deprived of every means of support, and driven into exile, by D'Aranda and Pombal,* the infidel tools of the infidel philosophers, who had it all their own way at that eventful period.

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* Pombal, the Portuguese Prime Minister, prevailed upon the King to issue an edict, September 3, 1759, confiscating the goods of all the Jesuits in Portugal, and banishing them the kingdom. They were put on board vessels, and were landed in a state of destitution on the shores of Italy. A similar decree was

"From the time of our return to Rome to that of our departure for Cività Vecchia in June 1841, things went smoothly on, whilst every day was productive of information and contentment. My sisters passed their time as usual, and much of mine own was spent in the bird-market and in its environs, and in preparing the specimens which I had procured. I obtained a fine gobbo, or white-headed duck, the only one in the market during the two seasons of my stay in Rome. I also got a very handsome red-crested duck with a red beak, equally as scarce. The large bat, 'altivolans,' is abundant in Rome. You may see it issuing from the lofty edifices at sunset, and proceeding with surprising velocity to its favourite haunts afar off. The Roman lizard is beautiful in form and colour. After dissection, which is very difficult and tedious at the tail, I could restore its anatomy perfectly; but the brilliant green and yellow colours of its body soon began to fade, and at last they totally disappeared, the specimen gradually assuming a tint composed of grey and blue. The fresh-water tortoise, with a tail considerably longer than that of the one which lives on land, is well worth the trouble of dissection. The Museum of Natural History, at the Sapienza in Rome, is a discredit to the name of the establishment, and I could see nothing in the department of zoology worthy of the least attention.

"Rome is certainly the most quiet city I ever visited. That foul play and stiletto experiments do occasionally occur, is probable enough, when we consider the extent of the city, and the vast influx of strangers from all parts of the world. Still I witnessed no desperate acts of violence. Yet, methinks, I must have seen some, and perhaps have felt them too, had they been of ordinary occurrence, for I had occasion to be in the streets every morning a little after four o'clock. Sometimes a houseless dog, which had secured its night's lodgings in the open air, would snarl at me; but, on my pretending to take up a stone, it fled immediately. I saw nothing in the shape of man to cause suspicion, either when the moon

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issued by Charles III. of Spain, in March, 1767, at the instigation of Count D'Aranda, President of Castille, when the Jesuits of Spain and her colonies, were transferred in a body to Italy, and chiefly to the States of the Pope.—[Ed.]

shone brightly, or when her light was partially supplied by the flickerings of the distant lamp. But I had often occasion to observe both men and women, kneeling in fervent prayer at the little oratories so common in the streets, especially at that of the 'Madonna del Archetto,' so well known in the year 1796, and so incessantly resorted to since that interesting period.

"I was not aware until chance put me up to it, how careful the Roman Government is in providing for the spiritual wants of the soul. Having mistaken the hour of rising, I was in the street at half-past three in the morning; and seeing a man with a gun in his hand, and a couple of dogs by his side, I pushed up, in order to have a word or two with him. On my remarking that it was somewhat early to go in quest of game, he replied that his chase lay a good way off; and that he had just come from the three o'clock mass, which is always said at that hour for the accommodation of those who indulge in the sports of the field.

"He who has leisure on hand to examine into the nature of religious establishments, cannot help being convinced of their utility. In Rome it is at once apparent. There, no man ever need complain of the want of a meal, for he is sure to find it at the charitable convent door, where, every day in the year, food is distributed to all who come for it. An English gentleman, who had resided fifteen years in Rome, once told me that he had never known a single instance of any person dying through want. It would be wrong in me to withhold this small tribute of praise due to the monasteries, as I am thoroughly convinced of their great benefit to all ranks of people. The time of the inmates is spent either in salutary advice at the confessional, or in offering up prayers for the nation, or in attending at stated hours to the wants of the poor and distressed. The good monks may be seen taking the fresh air in the evening, for the preservation of their health, in some favourite quarter of the town, but they all retire to the convent before it is dark; the 'Ave Maria,' or short form of prayer to implore the intercession of the blessed Virgin for the welfare of the city, announcing that the time of returning within their enclosures has already arrived.

"Cervantes has told us that there is nothing certain in this life; 'No hay cosa segura en esta vida:' and that, where you least expect it, up jumps the hare; 'Adonde menos se piensa, se levanta la liebre.' All this we found to be very true, after our departure from Rome in order to reach England before the close of summer. I had been above a year and a half in Southern Italy with my sisters-in-law Miss Edmonstone and Miss Helen Edmonstone, and my son Edmund, a youth of eleven years of age. We left Rome with our two servants on the 16th of June 1841; and the next day, at four o'clock in the afternoon, we went on board the *Pollux* steamer, of two hundred horse-power, at Cività Vecchia, and shaped our course for Leghorn. The weather was charmingly serene: scarcely a ripple could be perceived upon old ocean's surface; and when the night set in, although there was no moon, the brilliancy of the stars made ample amends for her non-appearance. I soon remarked a want of nautical discipline on board the *Pollux;* and ere the sun went down, I had observed to a gentleman standing by me, that in all my life I had never been on board of a vessel where unseaman-like conduct was more apparent. After making choice of a convenient part of the deck, I laid me down in my travelling cloak to pass the night there, having Mr Macintosh's life-preserver in my pocket. He had made me a present of this preserver some twenty years ago, and I have never gone to sea without it. Contrary to their usual custom, my sisters preferred to sleep that night on deck on account of the serenity of the weather; and as our two servants followed their example, none of our party went below, for my son Edmund had already chosen his spot of retirement near to the place where I was reposing. We had the great awning above us. It had been left expanded apparently more through neglect than with an intention to accommodate the passengers. Suddenly, our sleep was broken by a tremendous crash, which at first I took to be the bursting of the boiler. But I was soon undeceived; for, on looking around, I saw a huge steamer aboard of us, nearly amid-ships. It proved to be the *Monjibello*, of 240-horse power, from Leghorn to Cività Vecchia. She had come into us a little abaft the paddle-wheels, with such force that her cutwater had actually penetrated into our after-cabin. In all probability she would have cut us in two, had not her bowsprit fortunately come in contact with our funnel, which was smashed in pieces, and driven overboard by the shock. The *Pollux* instantly became a wreck, with her parts amidships stove in; and it was evident that she had but a very little time to float. I found my family all around me; and having slipped on and inflated my life-preserver, I entreated them to be cool and temperate, and they all obeyed me most implicitly. My little boy had gone down on his knees, and was praying fervently to the blessed Virgin to take us under her protection, whilst Miss Edmonstone kept crying out in a tone of deep anxiety, "Oh, save the poor boy, and never mind me!" Sad and woeful was the scene around us. The rush to get into the *Monjibello*, which, thanks to Charles Bonaparte (Prince Canino), was still alongside of us, caused unutterable confusion. Some were pulled up on deck by the passengers and crew of the *Monjibello;* others managed to get on board of her without help; and others ran to and fro, bereft of all self-command; whilst our damaged vessel herself was sinking deeper and deeper every minute into her watery grave. Confiding in my valuable life-preserver, I remained on board the *Pollux* till nearly all had left her. I had managed to keep possession of my favourite travelling-cloak, and should have saved it ultimately, but for the following misadventure. A fine young German woman, with a child under her arm, and apparently terrified out of her senses, seized fast hold of me by her hand that was free, just as I was in the act of trying to get into the *Monjibello.* Her convulsive grasp held me so completely fast, that I could neither advance nor retreat. I begged of her in French for the love of God to let go her hold, as we should both of us inevitably perish. But she was unconscious of what I said; and with her mouth half open, and with her eyes fixed steadfastly on me, she continued to grasp me close under the ribs, with fearful desperation. I now abandoned my cloak to its fate, and then having both hands free, I succeeded in tearing myself from her grasp, and got up the side of the *Monjibello* by means of a rope which was hanging there.

"We were all saved except one man. He was a respectable ship-captain from Naples, and was on his way to Leghorn, in order to purchase a vessel. In talking over his death the morning after, it was surmised that he had all his money in gold sewed up in a belt around his body,—a thing common in these countries; and to this might be attributed his untimely end, for I heard one of the *Monji-*

bello sailors say, that he had got hold of the captain's hand after he had fallen into the sea, but that the weight was too much for him; and so the poor captain sank to the bottom and perished there.

"Mr Frederick Massey, first engineer on board of the *Pollux*, performed an act of courage which ought to be made known to the public. He had effected his escape from the sinking vessel into the *Monjibello*, but reflecting that the boiler of the former might explode and cause additional horrors, he went back to her, and eased the safety-valve, at the time when the engine-room was filling fast with water. Having performed this eminent service, the gallant fellow got safely back again on board the *Monjibello*.

"The two steamers were now at a short distance from each other. I kept a steadfast eye on the shattered *Pollux*, knowing that her final catastrophe must be close at hand. She went down stern foremost, but she hesitated a while in the act of sinking, as though unwilling to disappear for ever. This momentary and unexpected pause gave us some hopes that she might remain waterlogged; and I said to a gentleman standing by me, I do not despair of seeing her at to-morrow's dawn. But she tarried only for a few minutes. Her forepart then appeared to rise up perpendicularly. She sank gradually lower and lower. We saw her last light extinguished in the water; and then all was still, for there was no wind in the heavens; and so easy was her descent into the 'chambers of the deep,' that it caused no apparent temporary whirlpool on the place which she had just occupied. Thus foundered the *Pollux* steamer, with all her goods and property on board. Not a spar, not a plank, not a remnant of anything was left behind her. Many were of opinion that she floated not more than ten minutes from the time that she received her deathblow; others again conjectured that she remained a short half hour: probably, some sixteen or eighteen minutes will not be far from the mark. All our hopes of safety now depended upon the *Monjibello*. But the worst was apprehended, knowing that she herself must have received a tremendous shock at the time that she ran the *Pollux* on board. The general perturbation was much increased by a sudden report that the Monjibello was actually sinking, and a demand was immediately made by the passengers to be put on shore at the nearest point of land.

"Prince Canino (Charles Bonaparte) had come passenger in the *Monjibello* from Leghorn; and his exertions to save us were beyond all praise. The fatal collision had taken place some five miles from the Island of Elba. The prince immediately offered his services to go to Portolongoni, in order to obtain permission for us to land there. Indeed, under Heaven, we already owed our lives to Prince Canino, for when the *Moniibello* had backed out from the wreck of the *Pollux*, and was in the act of sheering off from alongside of us, he, with the characteristic judgment of his uncle Napoleon in the hour of need, ran to the helm, and, knocking the steersman aside, took hold of it himself, and placed the *Monjibello* in a situation to enable us to pass on board of her from the sinking *Pollux*. Had the prince not done this, the loss of life would have been terrible, for we had been deprived of our boat, three people having made off with it to save their own lives, at the time when all was in confusion.

"The prince having reached Portolongoni in one of the *Monjibello's* boats, he begged permission of the officer in command that he might be allowed to land. But all his entreaties were of no avail. Nothing could mollify the man's iron heart. He peremptorily refused the favour which the prince had asked, adding, by way of excuse for his diabolical conduct, that he was bound to obey the law, which did not allow of our landing under existing circumstances. Finding all remonstrance of no avail, and seeing that the heart of this savage was too obdurate to be worked upon by any further recital of the horrors of our situation, Prince Canino left Portolongoni in disgust, and returned to the *Monjibello*, where he announced to us, in terms of high indignation, the utter failure of his mission.

"We lay-to during the remainder of the night, got up our steam at early dawn, and reached the port of Leghorn, where we came to an anchor. Here, again, Prince Canino was a real benefactor to us. The wise men of Leghorn met in consultation, and gravely decreed that we must perform a quarantine of twenty days, because we had no bill of health to show. Now, these Solons knew full well that the *Monjibello* had left their own harbour, in due form, only the evening before; and they were told that the people whom the *Monjibello* had received on board, had equally left Cività Vecchia in due form; but that these people could not possibly produce a bill of health, because that bill of health was unfortunately at the bottom of the sea in the foundered *Pollux.* Still the collected wisdom of Leghorn insisted on the performance of quarantine. The law ordained it, and the dead letter of the law was to be their only guide. Prince Canino pleaded our cause with uncommon fervour. He informed them that we had had nothing to eat that morning, as the *Monjibello* had only taken provisions on board to last till she reached Cività Vecchia. He described the absolute state of nudity to which many of the sufferers had been reduced, he urged the total loss of our property, and he described in feeling terms the bruises and wounds which had been received at the collision. In fine, he entreated his auditors to accompany him alongside of the *Monjibello*, where they would see with their own eyes the sufferings which he had just described.

> ——— "quid facundia posset,
> Re patuit."

"The council of Leghorn relented, and graciously allowed us to go ashore, after we had been kept for above two hours in suspense as to our destiny. We landed, in appearance something like Falstaff's regiment. My ladies had lost their bonnets, and I my hat. Others were without stockings, coats, and shoes. I saw two worthy priests standing on the deck of the *Monjibello* with only one shoe each. I recommended them to cast lots for a shoe, so that one of them at least might walk comfortably up the uneven streets of Leghorn. They smiled as I said this, and no doubt they thought my levity out of season.

"A survey was immediately made on the *Monjibello*, and on finding that she had not suffered materially during the concussion, she was pronounced to be sea-worthy. Having lost our all, we determined to return to Rome in the same vessel which had run us down. Wherefore, after thanking Mrs M'Bean and her two excellent sons for their attention to us during the day which we had spent in Leghorn, we went once more on board the *Monjibello*, repassed over the place where the *Pollux* had sank for ever, and landed at Cività Vecchia, whence we posted it to Rome.

"At the Roman custom-house they knew how to feel for those in distress. We had purchased in Leghorn all the materials necessary to replace our lost wardrobe; these were liable to a heavy duty in the Roman States, but the officers of the customs let every article pass duty free, remarking at the same time, that our forlorn situation demanded all the assistance in their power. Neither would the Roman police make any charge for the renewal of our '*carta di sicurazza;*' and on our leaving Rome for England a second time, nothing was demanded by any of the different consuls for signing our passport; imitating in this, the disinterestedness of Mr Barton, the British consul at Cività Vecchia, who refused to take his fee, and was unwearied in his attention to us the day after our disaster. But, I must add, that when I went to the English consul of Leghorn for a new passport, he charged the full price for it, verifying the old saying, '*Quærenda pecunia primum est.*'

"And now a word or two more on the dismal scenes which took place at the collision, and after our vessel had foundered. In the hour of danger several of the crew of the *Pollux* abandoned us to our fate, and saved themselves by getting into the other vessel. Our brave captain and his mate, in lieu of keeping alternate watch on deck, were both fast asleep in their berths below, when the *Monjibello* ran on board of us. The captain was so scared, that he forgot to put on his trousers, and his shirt was his only covering when he reached the *Monjibello*. At the very time that our boat would have been of the utmost service to us, I have already mentioned that three persons got into it, and rowed away for the land. A gentleman, by name Armstrong, had a narrow escape. He was struck and knocked down by the *Monjibello* as she entered us; and he was kept where he fell, by the falling fragments. He was sadly wounded, and he only just extricated himself in time to save his life. A Spanish duchess, who was sleeping below at the time of the accident, lost her senses completely. She persisted in remaining in bed, and no entreaties could move her to leave it. She was dragged upon deck by main force, and taken into the *Monjibello* with nothing but her shift on. She had not re-gained her self-possession on the following day, for she hesitated at the door of the hotel in Leghorn, and would not pass the threshold until her attendants had shown her that it would not give way under her feet.

"After we had got safe into the *Monjibello*, and the terror had somewhat abated, I went down into one of her cabins to see how things were going on. At the farthest corner of it, I saw, by the light of a lamp, a venerable-looking priest dripping wet, and apparently in much pain. He informed me, that he had fallen into the sea, and he believed that he had broken his arm, for that his sufferings were almost intolerable. I ripped up his coat with my penknife, and found his shoulder dislocated. With the help of three young English engineers, I replaced the bone in its socket, and then took off his wet clothes, and gave them in charge to my servant, that he might dry them in the following morning's sun. A good Samaritan, who was standing by, furnished a shirt for him. Having made him as comfortable as circumstances would permit, I got him some water to drink, and promised that I would be with him every now and then to see that all was right. The people took me for a surgeon, and they requested that I would bleed the captain of the late *Pollux*, for that he was apparently in a dying state. This dastardly sansculotte was on the floor in horrible despair, sighing, sobbing, and heaving like a broken-winded horse. Having felt his pulse, I recommended that he should be taken on deck, and drenched well with sea-water, adding that this would be a much safer process than drawing his precious blood; and that a mouthful or two of salt water, with a little fresh air, would tend to collect his scattered senses.

"The whole blame of this shipwreck must be thrown on the captains and the mates of the respective vessels. All four of these worthless seamen were fast asleep at the time of the accident, in lieu of attending to their duty. Hence the total loss of the beautiful steamer *Pollux*, at the very time when the absence of everything that could retard her progress, or cause alarm for her safety, made us sure of a prosperous passage to Leghorn. Our own individual losses were heavy. The costly wardrobe of my sisters, the objects of art which had been purchased in Rome, our books, our writings, our money, our Palmerston passport, and our letter of credit,—all went to the bottom with the foundered steamer. Miss Helen Edmonstone lost an ivory crucifix of rare value. It had been sculptured by some first-rate artist of the 15th century, and its loss can never be replaced. My little boy was deprived of a relic of great estimation. It consisted of a *corpo santo* from the catacombs, and was expected to be placed in our chapel. He had received it as a present from the hands of the learned and virtuous Cardinal Fransoni.

"In most towns of Italy, a book lies on the table of the hotel, for travellers to enter their names, and in it they sometimes pen down a remark or two. In passing through the town of Novi, on our return to England, a book of this description was presented to me by the waiter. After entering our names, I gave the following brief account of our recent disaster:—

"'The *Pollux*, once so fine,
No longer cleaves the wave,
For now she lies supine,
Deep in her wat'ry grave.

"When she received her blow,
The captain and his mate
Were both asleep below,
Snoring in breechless state.*

"If I the power possess'd,
I'd hang them by the neck,
As warning to the rest,
How they desert the deck.

"Our treasures, and our clothes,
With all we had, were lost.
The shock that caused our woes
Took place on Elba's coast.'

"Cervantes, who had studied the rise and fall of human affairs in all their different bearings, exclaims on one occasion, 'Thou art welcome, Evil, if thou comest alone.' Had my disasters ended with the shipwreck, all would have soon gone right again; for the soothing hand of time seldom or ever fails to pour balm into the wounds which we are exposed to receive. But it pleased Almighty God not to stay the chastising rod, so justly due to me, for my many transgressions against His divine law. A fever attacked me, and although it yielded to strength of constitution, it seemed to have sown the seed of future ailment; for in a few days after its disappearance a thirst came on, as intense as any I had experienced on the other side of the tropic. This was an awful warning. A dysentery at last made its appearance, and it harassed me cruelly all the way through Italy and the intervening countries to Ostend, at which port I embarked for London, and thence took steam to Walton Hall.

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* These two stanzas are a parody on a portion of Cowper's exquisite lines on the Loss of the *Royal George*.—[Ed.]

"I have little or nothing more to add by way of memoir, except that the severe attacks of dysentery, and the former indispositions caused by remaining in unwholesome climates, and by exposure to the weather, seem to have made no inroad into my constitution; for, although life's index points at sixty-two, I am a stranger to all sexagenarian disabilities, and can mount to the top of a tree with my wonted steadiness and pleasure. As I am confident that I owe this vigorous state of frame to a total abstinence from all strong liquors, I would fain say a parting word or two to my young reader on this important subject.

"If he is determined to walk through life's chequered path with ease to himself, and with satisfaction to those who take an interest in his welfare, he will have every chance in his favour, provided he makes a firm resolution never once to run the risk of losing his reason through an act of intemperance: for the preservation of his reason will always insure to him the fulfilment of his resolution, and his resolution will seldom fail to crown his efforts with success. The position of an irrational ass, cropping thistles on the village common, is infinitely more enviable than that of a rational man under the influence of excessive drinking. Instinct teaches the first to avoid the place of danger, whilst intemperance drives the last headlong into the midst of it. To me there is no sight in civilised society more horribly disgusting than that of a human being in a state of intoxication. The good Jesuit who, six and forty years ago, advised me never to allow strong liquors to approach my lips, conferred a greater benefit on me than if he had put the mines of Potosi at my immediate disposal. I might fill a large volume with the account of miseries and deaths which I could distinctly trace to the pernicious practice of inebriety. I have seen manly strength, and female beauty, and old age itself, in ruins under the fatal pressure of this degrading vice. The knave thrives on the follies of the drunkard, and whole families may trace the commencement of their decay to the dire allurements of the public-house. Father Matthew has done more for Great Britain by his divine suit of Sobriety *versus* Sot, than all her parliaments and potentates put together, from the days of old Harry down to the present time.

"And now a parting word on Natural History. An extensive preserve for every kind of British bird which may choose to take advantage of it, has afforded me excellent opportunities of making ornithological notes with tolerable exactness, and the observations of former years have occasionally been corrected by others in after-times. Still I recommend that what I have given to the public on the nature of our birds should be received with a certain degree of reservation, as their habits are apt to vary in proportion as location varies. Thus, the windhover, or kestril, at this place, abstains from killing birds during its abode amongst us; but, after it has left us on the approach of autumn, it is known to feed upon them during the winter months, as Mr Bury has satisfactorily proved. The sea-gulls, which not unfrequently resort to this inland sheet of water, pass the whole of their time in procuring fish; but I have seen the same species, on our eastern coast, following the farmer's plough, like rooks, in quest of worms. Mr Wighton's squirrels will consume carnal food when in confinement, whilst mine, in liberty, are never known to touch it; and, in Scotland, Sir William Jardine's barn-owl is known to hoot; but here, in Yorkshire, this species of owl can do no such thing. I myself can eat boiled snails in Southern Italy, but I am not quite certain that I would dine on them at Walton Hall, with a sirloin of roast beef on the table before me. At sea, too, I have eagerly consumed decayed biscuit, the very sight of which would be abhorrent to my eyes on the shelves of a baker's shop. In a word, who knows but that the Hanoverian rat, which is so voracious in this appetite-creating climate of England, might be more moderate in the country from which it originally came, were it happily endowed with qualities wherewith to perform a periodical migration across the water.

"I have now been fully thirty years in striving to improve the defective mode of preserving specimens for museums. The method which I have invented (as I have observed elsewhere) cannot be attained through the medium of instructions committed to paper. Nothing, indeed, short of personal demonstration on my part, in a process of three weeks' duration, will suffice; but, as there is no probability that I shall enter into such a course, I foresee that this novel method will sink down into oblivion with him who has produced it.

"But it is time to say farewell, and to bid adieu to Natural History, as far as the press is concerned. I trust that the account of my adventures will not disedify the reader, nor cause a frown upon his face, which it has been my ardent endeavour to brighten up with merriment. In casting my mind's eye over the two and sixty years of my existence, the time appears like the falling of a leaf in autumn, a mere 'sunbeam on a winter's day, a passing cloud in a tempestuous sky,'—sure monitors to put us in mind, 'that we are here now and gone in a moment!' I cannot divest myself of fear, when I consider how little I have done hitherto, and how much I might have done in preparation for that eventful day, when—

'Mors stupebit et Natura,
Cum resurget Creatura,
Judicanti responsura;'

that truly awful day, in which a cup of cold water, given to the thirsty, in the name of our dear Redeemer, will be of infinitely more value to us than all our multifarious labours to please a captious and seductive world.

'Only the actions of the just
Smell sweet, and blossom in the dust.'"

With these lines Waterton concluded the second instalment of his autobiography. Thirteen years afterwards he resumed the chronicle, and wrote in 1857 the final portion which follows:—

"On the 26th of May 1844, in the last page but one of my Autobiography, continued in the second volume of the 'Essays on Natural History,' I bade farewell to the reader, and to that delightful pursuit at the same time, so far as the public press was concerned. The fact is, I saw, not without some faint inward feelings of regret, that my once eastern sun, was inevitably approaching to its western repose; that future adventures would, of course, be scarce; and that mere common occurrences, incidental to retirement from a busy world, would have little in them either to amuse or to instruct the reader of them, whoever he might be. Under this impression I thought, how happy I should be, in this sequestered valley, where nature smiled, and all was gay around me. Here the pretty warblers from the south, when Spring had called them back, would charm me with their sylvan music; and when the chilling blasts of Autumn warned them to return to their own sunny regions in Africa, their loss would be replaced by congregated ducks and geese, and even by Cormorants, to change the scenery,—and still bring joy. Vain castles in the air! devoid of all reality! delusive as the quagmire's treacherous surface. My roving spirit, ever on the watch for new adventures, disdained a life so tame and unimportant. Even the Roman poet's warning line of '*O navis referent in mare te novi fluctus,*' had no effect upon me. So, having formed a plan of the campaign with my two dear sisters-in-law, Miss Edmonstone and Miss Helen Edmonstone, I bade adieu to these regions of the North, and we turned our faces once more to those of the smiling South.

"We wended our way through fertile lands, and magnificent scenery, till we arrived at the hill-surrounded town of Botzen. On leaving Botzen, we shaped our course for Trent,—Trent, so well-known in ecclesiastical history. The road is nearly level, and winds along the base of lofty mountains; whilst the intervening land has the appearance of a continuous vineyard. Recent rains had much impaired it in many places, and had forced down gravel and huge pieces of rock into the cultivated plain, causing lamentable spoliation. Men were standing ready, by order of the Austrian Government, to assist arriving carriages; but they refused our offer to remunerate them for their labour!

"I only saw one solitary crow, and a small flock of finches, throughout the whole of this day: birds, indeed, seem to be forbidden all protection in this portion of our earthly paradise, which, as far as ornithology is concerned, may be compared to Ovid's memorable description of Famine.

"The railway to Venice is supported by such a length of arches, that it fairly astounds the beholder. There must be good doings at the Hotel d'Europe in this ancient city; for we had scarcely got into it, when I spied a sleek and well-fed Hanoverian rat, basking in a sunny nook. It looked at us with the most perfect indifference, as much as to say, 'I have capital pickings here, both for myself and my relatives.' How well this plodding animal contrives to fatten both in a cold climate and in a warm one! Although so late in the season, we could perceive numerous bats over our heads as we were sitting in the gondola. Woodcocks were lying at the shop windows in great abundance.

"If you chance to be near the Church of St Mark just at the time of 'Ave Maria,' when the people of Venice stand in the street with their hats off, and say a short prayer of thanksgiving for the blessings received during the day, you will see a man with a light in each hand before a statue of the Blessed Virgin. Popular tradition concerning it is, that a murder had been committed in one of the streets. After the assassin had effected his deed of blood, he took to his heels, and thus escaped detection; but he dropped the bloody knife, near where the body of his victim lay. On the following morning, a poor shoemaker, at an early hour, had left his house to take his usual walk; and most unfortunately for himself, he had an empty knife-case in his pocket. On his being taken up by the police, and his person searched, this case was found to fit exactly the fatal knife; and upon this demonstrative evidence, the shoemaker was executed. At a later period, the real murderer was taken up, and confessed his crime. The Republic of Venice then ordered, that two torches should always be lighted at the hour of Ave Maria, in commemoration of the innocent shoemaker's fate; and to this day, his soul is remembered in the prayers of the citizens.

"At Venice, the kind Jesuit Fathers gave us a letter of introduction to those of Loretto. Pigeons in the city of Venice are remarkably numerous. They retire to roost, and also make their nests in the façades of the churches, and behind the ornamental statues of the saints, and in the holes of the walls where scaffolding is used. These pigeons are uncommonly tame, and I question if they have any owners. Cats and dogs being scarce in Venice, may be one cause of a plenitude of pigeons.

"I am very averse to Italian cooking in general. We had a dish one day, which, by its appearance and the sliminess of its sauce, I took to be a compound of cat and snail. When I shrugged up my shoulders at it, and refused to take it on my plate, as the waiter presented it to me, I could perceive by the expression of his face, that the scoundrel pitied my want of taste.

"At the town of Monsilice, there was nothing in the way of Natural History. On our way there, I observed a fair sprinkling of carrion crows, but nothing more.

"The morning on which we left Monsilice for Bologna was dark and gloomy, but towards noon the sun broke out in all his glory. Butterflies and wasps were on the wing, even though we were in the month of November; and I could perceive cats sunning themselves at the windows of the houses on the side of the road. Finches and sparrows were not uncommon, but not a crow, nor a daw, nor a magpie could be observed. Plenty of more than usually large turkeys, evidently of this year's breed, were in great abundance; and very numerous also were dunghill fowls in the adjacent fields, and at the barn-doors of the farm houses. Dogs, upon the whole, seemed scarce, teal and widgeons in abundance.

"Whilst in this city, the Marquis Fransoni, eldest brother of the Cardinal, gave us an introduction to the Church, where, in an adjoining apartment, is kept the incorrupt body of St Catharine of Bologna. We saw it, and we had the finest opportunity of examining it with great attention.

"At Rimini, now celebrated for its miraculous picture of the Blessed Virgin, we could see the larger and the smaller species of bats, on wing, as the night set in. Here, again, large turkeys and common fowls were most numerous. The horses are no great things, but there are potent mules and asses. Some of the carts cut a droll appearance, by having three beasts abreast, closely allied to each other, but not forming one distinct family. Thus, you would see a horse harnessed on one side, and an ass on the other, whilst the middle place was occupied by the mule, their strong and stubborn half-brother. The oxen are nearly all one colour. They are docile, large and beautiful. Animals, 'sine fraude dolisque.' Huge fat red pigs, some of them with white faces, might be seen, well packed in curiously-formed carts. Judging by their plump appearance, and likewise by this particular kind of conveyance, I suspected that this was their last journey, and the last day they had to live.

"At Casa Brusciate our journey had well-nigh terminated sadly to our cost. One horse fell down whilst going at a gallop; and in an instant, both itself and the off leader were on their backs in the ditch alongside of the road. How it happened that they did not drag the carriage after them, I cannot comprehend. The fore-wheel sank deep in the soft earth, which partially gave way under the weight. Had the carriage moved a trifle more, nothing could have prevented a total smash. Although exposed to imminent danger, my sisters behaved nobly. Not a shriek, not a sigh escaped from their mouths; and when we had managed to get them out of the carriage, they retired to a safe distance from it, with wonderful composure, and silently awaited the termination. But on many other occasions when danger has been apprehended, their self-command has been worthy of all admiration. In the meantime, the prostrate leader kept striking out at intervals, till at last his foot got jammed in the spokes of the fore wheel. Our position was bad indeed. Every moment I expected that the fettered leg of the horse would be broken. However, by dint of exertion, and help from people on the road, we got the leg released and the horses on their feet again, so that we were enabled to reach Ancona.

"Although the Adriatic had been in view for the best part of the day, we saw not a single gull of any species. But there were abundance of larks and finches on the sea-shore; and Miss Helen pointed out some scamps going after them with a gun. One vagabond had a Civetta owl at the top of a long pole—a common practice here, to decoy the poor birds to their destruction. Whilst I was condemning it, our attention was drawn to an amusing young hero, who was wrestling most manfully with a jet black half-grown pig. He got the better of it, seized both its hind legs, and then forced it to walk on, as a biped; putting us in mind of a man with a wheel-barrow. At last he jerked it into a large hole full of water and washed it well—himself laughing immoderately, and seemingly proud of the adventure. Cats were plentiful; taking the sun, as they sat on the roofs of the houses.

"Loretto stands upon a mountain of vineyards, surrounded by other high mountains, also cultivated for the grape. The celebrated Church of Our Lady is most magnificent: whilst the Santa Casa within it surpasses all attempt at description. The inside of the Santa Casa's walls are in their pristine state; but those outside are entirely covered with sculptured marble, chiselled by the first artists of the times. That Supreme Being, who can raise us all at the last day, could surely order the Santa Casa, which was inhabited by the Blessed Virgin, when she lived in Nazareth, to be transported from Judea to the place where it now stands, if such were His will and pleasure. There are authentic proofs of its miraculous transition; but the belief of it is optional with every Catholic, as the Church has pronounced nothing on the subject. Millions upon millions of pilgrims have already visited it, and millions in times to come will, no doubt, follow their example. I believe in the miracle.

"The road onwards, from Loretto to Rome, offered us very scanty gleanings in ornithology. All that we saw was a few finches and carrion crows. The pigs here are mostly black, and stand high on their legs; but not quite so high as those of Belgium. The mules and asses seemed to be well taken care of, and the oxen are beautiful. Although the day was deliciously warm, and although I cast my eyes upon every sunny bank which presented itself, still I could not observe a single lizard. These pretty little children of summer were all in their winter's sleep, safe and secure from harm. But now ornithology was certainly on the mending hand. Large flocks of finches flitted on before us, whilst jays and magpies assured us, by their harsh notes and their chatterings, that they were safe from the poison and exterminating guns of such fell destroyers as our English gamekeepers. Still, this unexpected treat in animated nature could only be considered as accidental at the best; for from Calais to Rome, the traveller may pronounce the country, on each side of the highway, little better than a barren wilderness, so far as regards living wild animals. It is clear, then, that the traveller, journeying on from town to town in continental districts, will be sadly disappointed if he expects to find even a very moderate show of birds in the surrounding country. But, that birds do frequent these regions in vast abundance is beyond all doubt, by the ample supply to be found in every town during the season; especially in Rome, where the daily consumption and supply almost surpass belief. I have known seventeen thousand quails brought to the eternal city in the course of one morning.

"Here I will close the scene, and return home. I have had an adventure or two of very singular import, and I could wish to unfold them to the eye of the curious reader, ere I bid him adieu for ever.

"It has been aptly remarked by writers, that death will often spare his victim when far from home, and slay him at last, close to his own fireside. Thus fell poor Bruce, whom Abyssinian toils could not subdue. Death, without a moment's warning, struck him down at the foot of his own staircase. Sancho Panza was justly of opinion, that there is nothing secure in this life. A few years ago the jubilee, which takes place once in every fifty years, was to be celebrated in the city of Bruges, and the Holy Blood of our Redeemer was to be carried in procession with vast magnificence through the streets. My two sisters had already set off before me, and I was to follow them in the course of a few days;—urgent business keeping me at home. So, in due time, I left Yorkshire for London, and thence for Dover by the night train. The night was as dark as pitch, for there was neither moon nor stars; all above being one dense cloud. On my leaving the station to go on board the Belgian steamer, I threw my Italian cloak over my shoulders, and with a little portmanteau in one hand, and an umbrella in the other, I inquired for the porter. But he had just been engaged that very moment by two gentlemen, who were on their way that night to Calais; so I thought that I could not do better than keep them company. The porter asked to carry my portmanteau; but as he had already enough of weight upon his shoulders, I answered that I would carry the little portmanteau myself. The Belgian boat was moored a trifle ahead of the French steamer, and she burnt a blue light. This he pointed out to me. 'You have only, sir,' said he, 'to cross the little bridge close by here, and you will be on board the Belgian steamer immediately.' I thanked him, and we parted company. Following his instructions, I passed the wooden bridge; and when I supposed myself at the temporary gangway leading to the vessel—not being able to distinguish land from water, on account of the darkness,—oh, horrible mistake!—I was, in fact, on the very confine of the basin, and at the next step I sank overhead in the water, after having dropped down some fifteen feet. Death now stared me in the face. Here, I ought to remark, I wore the miraculous medal of the Blessed Virgin, so well known throughout all France; and I had daily begged this 'Consolatrix Afflictorum' that she would obtain for me, from our dear Redeemer, the favour that I might not die a sudden and unprovided death. At the first plunge into the water, I heard a voice exclaim from the vessel, 'There is somebody overboard:' but not a word more. Stunned and confounded by the awful accident, and not in the least aware whither I was swimming, I had got under the paddle-wheel; and there I found support. Just at this critical moment, when, through excessive cold and numbness, I was on the point of sinking for the last time, a voice called out in French, 'Courage, and I will save you.' In an instant of time a Belgian sailor seized my hand, and immediately a comrade came to his assistance. On hearing my cry for help, they had come through the paddle-house door on deck, and had descended through the interior of the wheel. Arrived on board, soaked through and shivering in the midnight blast, two police officers kindly stepped forward to my assistance, and I requested to be conducted to a respectable hotel. The Dover Castle, kept by the Widow Dyver (a most appropriate name on such an occasion), was the nearest to us. Whilst the good lady was gazing on me, she appeared greatly affected, and pressed me much to have a doctor. 'There is one close at hand,' said she, 'he will be here in a minute or two.' 'Madam,' I replied, 'a doctor will not be necessary—let me have a couple of blankets. I will roll myself up in them, and lie down on the floor by the side of the fire, and I shall be better at break of day.' So, I lay me down, without taking inward consolation in the way of cordial, much to the astonishment of those who were standing by. Ere the sun rose on the morrow, nature had wonderfully rallied. My cloak, umbrella, hat, and portmanteau, had all been picked up and conveyed to the hotel. The portmanteau and umbrella had remained fixed in the mud, the cloak had floated, and the hat had drifted still farther out. These unlucky remnants of an unlucky misadventure, gave rise to a current report in Dover, that somebody must have perished during the night. I now began to have hints from within, that I should have to wrestle with a cold and fever. A short cough, with pain at the chest, gave me to understand that a cold bath at midnight was more likely to do harm than good. Still I felt great repugnance at the very thought of returning home to my house in Yorkshire. There was a French steamer in the harbour, to start for Calais in the afternoon. I embraced the opportunity; so, having settled my little account at the hotel, and having thanked the worthy landlady for her attention to an unknown gentleman in distress, I bade her farewell; and whilst shaking her by the hand, I assured her that, wherever I went, I would never fail to recommend to my friends the excellent cheer and comfortable apartments in the Dover Castle Hotel. As we parted, she put a card into my hand, with the address, 'Hotel de Paris, à Calais, tenu par Charles Ledez.' 'This, sir,' said the landlady, as she gave it to me, 'will be of service to you, on your reaching Calais.' And so, indeed, it proved to be; for this kind-hearted French gentleman did everything in his power to comfort me. We had a roaring fire, at which I gave him a full account ot my recent disaster. He remained with me in the coffee-room until midnight, when he took a ticket for me by the train for Flanders, got my passport viewed, and thus saved me much trouble at the time when I was the least prepared to undertake it.'

"Arrived at Bruges, I felt assured that I was called upon to pay the piper for my late wintry dance in Dover's unprotected basin. Symptoms of fever, heats, and shiverings, alternately accompanied by cough and oppression at the chest, warned me forcibly that it was time to keep a sharp look-out. This was on the eve of the great festival of the Holy Blood. I had come all the way from Yorkshire to be present at it, and I could not well brook a disappointment. Finding things going worse and worse on the score of health, I resolved at once to have recourse to the lancet, and I forthwith drew twenty-five ounces of blood from my arm. The operation was crowned with complete success, and I immediately became a new man. The fever, cough, and headache went away as though by magic. I found myself competent to attend the procession through the streets of the city, for full four hours; but to make all sure, on the following morning, I took an aperient of twenty grains of jalap, mixed with ten grains of calomel; and this rectified most satisfactorily all that had been thrown into confusion, caused by the unfortunate midnight dip already portrayed.

"Before I close these memoranda, I have to describe another mishap of a very dark complexion. Let me crave the reader's leave to pen down a few remarks on bone-setting, practised by men called bone-setters, who, on account of the extraordinary advance in the art of surgery, are not now, I fear, held in sufficient estimation amongst the higher orders of society. Every country in Europe, so far as I know to the contrary, has its bone-setter, independent of the surgeon. In 'Johnson's Dictionary,' under the article 'Bone-setting,' we read that a Sir John Denham exclaimed, 'Give me a good bone-setter.' In Spain the bone-setter goes under the significant denomination of Algebrista. Here in England, however, the vast increase of practitioners in the art of surgery, appears to have placed the old original bone-setter in the shade; and I myself, in many instances, have heard this most useful member of society designated as a mere quack; but most unjustly so, because a quack is generally considered as one devoid of professional education, and he is too apt to deal in spurious medicines. But not so the bone-setter, whose extensive and almost incessant practice makes ample amends for the loss of anything that he might have acquired, by attending a regular course of lectures, or by culling the essence of abstruse and scientific publications. With him theory seems to be a mere trifle. Practice—daily and assiduous practice—is what renders him so successful in the most complicated cases. By the way in which you put your foot to the ground, by the manner in which you handle an object, the bone-setter, through the mere faculty of his sight, oftentimes without even touching the injured part, will tell you where the ailment lies. Those only who have personally experienced the skill of the bone-setter, can form a true estimation of his merit in managing fractures and in reducing dislocations. Further than this, his services in the healing and restorative art would never be looked for. This last is entirely the province of Galen and his numerous family of practitioners. Wherefore, at the time that I unequivocally avow to have the uttermost respect for the noble art of surgery in all its ramifications, I venture to reserve to myself (without any disparagement to the learned body of gentlemen who profess it), sincere esteem for the old practitioners who do so much for the public good amongst the lower orders, under the denomination of British bone-setters. Many people have complained to me of the rude treatment they have experienced at the hands of the bone-setter; but, let these complainants bear in mind that, what has been undone by force, must absolutely be replaced by force; and that, gentle and emollient applications, although essentially necessary in the commencement, and also in the continuation of the treatment, would ultimately be of no avail, without the final application of actual force to the injured parts. Hence the intolerable and excruciating pain on these occasions. The actual state of the accident is to blame—not the operator.

"Towards the close of the year 1850, I had reared a ladder, full seven yards long, against a standard pear-tree, and I mounted nearly to the top of this ladder with a pruning-knife in hand, in order that I might correct an over-grown luxuriance in the tree. Suddenly the ladder swerved in a lateral direction. I adhered to it manfully, myself and the ladder coming simultaneously to the ground with astounding velocity. In our fall I had just time to move my head in a direction that it did not come in contact with the ground,—still, as it afterwards turned out, there was a partial concussion of the brain; and add to this, my whole side, from foot to shoulder, felt as though it had been pounded in a mill. In the course of the afternoon, I took blood from my arm to the amount of thirty ounces, and followed the affair up the next day with a strong aperient. I believe that, with these necessary precautions, all would have gone right again (saving the arm), had not a second misadventure followed shortly on the heels of the first; and it was of so alarming a nature, as to induce me to take thirty ounces more of blood by the lancet. In order to accommodate the position of my disabled arm, I had put on a Scotch plaid in lieu of my coat, and in it I came to dinner. One day the plaid having gone wrong on the shoulders, I arose from the chair to rectify it, and the servant, supposing that I was about to retire, unluckily withdrew the chair. Unaware of this act on his part, I came backwards to the ground with an awful shock, and this no doubt caused concussion of the brain to a considerable amount.

Symptoms of slowly approaching dissolution now became visible. Having settled with my solicitor all affairs betwixt myself and the world, and with my Father Confessor betwixt myself and my Maker, nothing remained but to receive the final catastrophe with Christian resignation. But though I lay insensible with hiccups and *subsultus tendinum* for fifteen long hours, I at last opened my eyes, and gradually arose from my expected ruin.

"I must now say a word or two of the externals damaged by the fall with the ladder. Notwithstanding the best surgical skill, my arm shewed the appearance of stiff and withered deformity at the end of three months from the accident. And now my general state of health was not as it ought to be;—for incessant pain prevented sleep, whilst food itself did little good. But my slumbers were strangely affected. I was eternally fighting wild beasts, with a club in one hand, the other being bound up at my breast. Nine bull-dogs one night attacked me on the highroad, some of them having the head of a crocodile. I had now serious thoughts of having the arm amputated. This operation was fully resolved upon, when luckily, the advice of my trusty gamekeeper, John Ogden, rendered it unnecessary. One morning, 'Master,' said he to me, 'I'm sure you're going to the grave. You'll die to a certainty. Let me go for our old bone-setter. He cured me, long ago—and perhaps he can cure you.' It was on the 25th of March, then, *alias* Lady-day, which every Catholic in the universe knows is a solemn festival in honour of the Blessed Virgin, that I had an interview with Mr Joseph Crowther, the well-known bone-setter, whose family has exercised the art, from father to son, time out of mind. On viewing my poor remnant of an arm—'your wrist,' said he, 'is sorely injured; a callus having formed betwixt the hand and the arm. The elbow is out of joint, and the shoulder somewhat driven forwards. This last affair will prevent your raising the arm to your head.' Melancholy look-out!—'But, can you cure me, doctor,' said I? 'Yes,' replied he, firmly; 'only let me have my own way.' 'Then take the arm, and with it take elbow, wrist, and shoulder. I here deliver them up to you. Do what you please with them. Pain is no consideration in this case. I dare say, I shall have enough of it.' 'You will,' said he, emphatically. This resolute bone-setter, whom I always compared to Chiron the Centaur for his science and his strength, began his operations like a man of business. In fourteen days, by means of potent embrocations, stretching, pulling, twisting, and jerking, he forced the shoulder and the wrist to obey him, and to perform their former healthy movements. The elbow was a complicated affair. It required greater exertions and greater attention. In fact, it was a job for Hercules himself. Having done the needful to it (*secundum artem*) for one-and-twenty days, he seemed satisfied with the progress which he had made; and he said quite coolly, 'I'll finish you off this afternoon.' At four o'clock, *post meridian*, his bandages, his plasters, and his wadding having been placed on the table in regular order, he doffed his coat, tucked his shirt above his elbows, and said, that a glass of ale would do him good. 'Then I'll have a glass of soda water with you,' said I; 'and we'll drink each other's health, and success to the undertaking.' The remaining act was one of unmitigated severity: but it was absolutely necessary. My sister, Eliza, foreseeing what was to take place, felt her spirits sinking, and retired to her room. Her maid, Lucy Barnes, bold as a little lioness, said she would see it out; whilst Mr Harrison, a fine young gentleman who was on a visit to me, (and, alas! is since dead in California), was ready in case of need. The bone-setter performed his part with resolution scarcely to be contemplated, but which was really required under existing circumstances. Laying hold of the crippled arm just above the elbow, with one hand, and below it with the other, he smashed to atoms, by main force, the callus which had formed in the dislocated joint; the elbow itself cracking, as though the interior parts of it had consisted of tobacco-pipe shanks. Having pre-determined in my mind not to open my mouth, or to make any stir during the operation, I remained passive and silent whilst this fierce elbow-contest was raging. All being now effected as far as force and skill were concerned, the remainder became a mere work of time. So putting a five-pound note, by way of extra fee, into this sturdy operator's hand, the binding up of the now rectified elbow-joint was effected by him, with a nicety and a knowledge truly astonishing. Health soon resumed her ancient right; sleep went hand in hand with a quiet mind; life was once more worth enjoying; and here I am, just now, sound as an acorn.

"About one half-mile from Wakefield's Mammoth prison, on the Halifax road, nearly opposite to a pretty Grecian summer-house, apparently neglected, resides Mr Joseph Crowther, the successful bone-setter. He has passed the prime of life;—being now in his seventy-seventh year. But, unfortunately, he has no son to succeed him. I might fill volumes with the recital of cases which he has brought to a happy conclusion. Two in particular, dreadful and hopeless to all appearance, have placed his wonderful abilities in so positive a light before my eyes, that I consider him at the head of his profession as bone-setter, and as rectifier of the most alarming dislocations, which are perpetually occurring to man in his laborious journey through this disastrous 'vale of tears.'

"Thus much for accidents by 'flood and field.' Warned by experience, I shall prefer in future to mount into trees without the aid of ladders; and should I again have to grope my midnight way along the edge of an unprotected pier, I will bear in mind, at every step, the dismal dip at Dover. Barring these two sudden and nearly fatal accidents, I have had most excellent health; and whilst engaged in my late annual trips to the continent, in company with my sisters, nothing has intervened to damp the usual flow of spirits.

"In Belgium, fine opportunities have occurred of seeing many rare summer birds of passage. At the ancient castellated villa of Viscount de Croezer—now, alas! no more—I could go and hear the 'tuneful nightingale charm the forest with its tale,' and see the golden orioles at their nests, close to the villa's moat;—a treat denied us here in England, by plundering boys and wanton gun-men, ever on the look-out to steal the eggs and take the lives of these amusing choristers. I had known the viscount ever since the year 1796. He was of mild and polished manners, and his loss will be sorely felt by the citizens of Bruges in particular, near to which ancient city stands his finely ornamented and venerable chateau.

"But time gets on apace. An inspection of this silvery head of mine, which has now seen nearly seventy-five long years, gives hints, that henceforth I shall not have many more adventures, either bright or dark, of sufficient import to merit a reader's notice. Kind reader, a few words more, and then—fare-thee-well. Some sixty years ago my father put into my hand a little iron cannon-ball;

requesting, at the same time, that I would never allow it to go out of the family keeping. 'It was used,' said he, 'against Oliver Cromwell, when he attacked our house.' My father then gave me the following account :—'At that period the old gateway was three stories high, and on the top of it was placed an iron swivel-gun, to carry balls the size of that which you now hold in your hand. Our people, who were defending the place against the attack of the marauder, having observed one of his men going up the footpath, through an adjacent wood, with a keg on his shoulder, for a supply of ale from the village, imagined that he would return by the same route. Under this supposition, the swivel-gun was pointed to bear on the path. When the returning soldier came in sight, the gun was discharged at him with so just an aim, that the ball fractured his leg. Tradition from father to son pointed out the spot where the ball had entered the ground. Long before you were born,' added my father, 'curiosity caused me to dig for the ball at the place which had been pointed out; and there I found it, nine inches deep under the sod.' So far my father.

"The year before last (1855), perceiving that the drift mud had accumulated vastly in the lake, I determined to cut a channel three-and-twenty feet deep, through the intervening rock to the level below, in order to effect a drainage for the water, which hitherto had discharged itself from a sluice, merely acting as a by-wash. On the 12th of March 1857, being at sludging-work close to the old gateway, and in front of it, we found an iron swivel cannon, eight feet deep in the mud, and resting on the remains of the ancient bridge. The little iron ball, mentioned above, seems to have been cast to fit this gun. I have no doubt, in my own mind, but that this is the gun and this the ball which were used at the period of the defence. We have since found several musket bullets, a sword blade, a battle spear, two daggers, the heads of a hammer and an axe, many coins, three or four keys of very ancient shape, a silver spur, and two silver plates, all deep in the mud, and within the woodwork of the former bridge. Up to the time of this discovery, nothing whatever had been known of these articles. But my father often said, that our plate was put under water when Charley Stuart's father made his appearance from abroad. The following historical

General View of the Park.

fact will possibly let out the long-concealed secret, touching the gun and the minor arms. After the fatal battle of Culloden, our house was ransacked for arms, by an officer sent hither on the part of Government. When the inmates of the house saw, with anger, what was going on, I can easily fancy that they would do all in their power to baffle the Government intruder; and that they then took their opportunity of hurling, into the lake below, what arms they could lay hold of—the swivel cannon amongst the rest. How varied is the turn of fortune! Success in battle, or the want of it, makes a man a patriot or a rebel. My family, solely on account of its conservative principles, and of its unshaken loyalty in the cause of royal hereditary rights, was, by the failure at Culloden's bloody field, declared to be rebellious; and its members had to suffer confiscation, persecution, and imprisonment. It had the horror to see, in a foregoing century, a Dutchman declared the sovereign lord of all Great Britain; and subsequently, Hanoverian princes, and Hanoverian rats, called over from the continent in order to fatten on our fertile plains of England."

As Waterton anticipated, the remainder of his tranquil existence did not furnish any events which could tempt him to renew the record of the mellow autumn of his days. But to complete the sketch, it is necessary that we should follow him into his home, and give some account of Walton Hall, and the life he led there. The house is situated in a valley on a plot of ground, or little island, which is surrounded by the ancient moat, enlarged into a lake covering five-and-twenty acres. The park, which encircles the lake, has all the varieties of wet and dry, of wood and open, of arable land and pasture, which could entice the different descriptions of animals. From the period of his succession to the estate, Waterton had done everything in his power to attract and protect them, and he fenced the park with a wall eight feet high, which rendered them the same kind of service that the moat had done to the Watertons of ancient times. This fortification cost him £9000, which, he used jocularly to say, he had saved from the wine he did not drink. With its unsurpassed resources, natural and artificial, Walton Hall was formed to be the retreat of a naturalist.

An iron foot-bridge, which faced the south and principal front of the house, alone connects the island with the park. If we cross over to the mainland, and proceed northwards along the east bank of the lake, we have, between our right hand and the plantation which skirts the park, a broad, grassy slope, only broken by a row of elms, the remains of a former avenue. Beneath the roots of the southernmost tree lie the bones of the wanderer's grandfather, a brave old Jacobite squire, who suffered imprisonment and fine in the Stuart cause, and was further impoverished on Doncaster race-course. In the days of their prosperity, the Watertons were buried at Methley, where several of their monuments are still to be seen, in a chapel built and endowed by one of the family. After the reverses entailed on them by the Reformation, they were interred in another chapel of their own in the chancel of Sandal church. But this hardy cavalier preferred that his body should rest beneath the fresh turf and spreading trees of his own demesne.

Continuing our route, we reach a dip in the land. Near the lake the hollow was left undrained to form a small swamp, which was tenanted by peewits, and in winter was never without its wisp of snipe. To the right of the swamp is a wood, which extends a long way down the park, and contained the heronry, numbering, at Waterton's death, more than forty nests. The rise in the ground beyond the plover swamp is called the Ryeroyd Bank. I have seen it black with rooks, and at another time blue with wood-pigeons, and of these latter birds Waterton, and Sir William Pilkington, with the aid of a telescope, once counted five thousand. Further on was some ploughed land, from which there was a view of the village of Wintersett, and here, while clover and oats were being sown, the squire, sitting upon a sack, related the story of the Wintersett blacksmith, one of those pleasant local traditions which are told to account for the rise of self-made men. "When De Ruyter sailed up the Thames, and burnt Tilbury Fort, the king offered £20,000 to any one who would make a chain to stretch across the river. A blacksmith's lad in this neighbourhood said to his master, 'Eh! measter, I wish thou'dt let me make t' chain.' 'Nay, lad, but thou couldst not,' answered the blacksmith. 'Yea, measter, I think I can, if thou 'lt let me,' replied the lad. 'Well, lad, so I will, and lend thee

The Grotto.

t' money to buy t' iron with.' So the lad, whose name was Sylvester, bought the iron, made the chain, and received £20,000 from His Majesty. All who tried the job before him had failed to make the chain sustain its own weight, but Sylvester, they said, hit upon the plan of making the links circular, so that the strain pulled them oval, but did not break them. With part of the reward Sylvester bought Wintersett, and, when he died, it went to his sister Nannie, who married the Recorder of Pontefract."

Onward over the ploughed land we come to a stream which runs into the lake. A wooden bridge leads us to the magnificent old oaks between which Waterton erected his monumental cross. His Jacobite grandfather found, we may suppose, some solace in natural objects for the disappointments of life, or he would not have desired to be buried by the avenue of elms. With Waterton nature had been a passion, and the grave of his grandfather could hardly avoid suggesting to him the thought that he, too, would lie in the cherished grounds where tree, and shrub, and water, and animals had been to him as so many personal friends. A little bench, close by the oaks, was one of his favourite seats. Here, in the warm stillness of summer noon, he would ruminate on the inexhaustible topics of Natural History, and call to mind all the wonders and wild luxuriance of the tropics, till he almost felt himself, where he often longed to be, in the never-ending forests of Guiana. A short distance further on was another favourite retreat, for we reach the head of the lake, which is divided by a causeway from a swamp that continues up to the park wall, and, as the swamp was a rare place for all kinds of birds, Waterton spent many an hour perched in the branches of a large oak, alternately reading some Latin poet, and observing the creatures around him.

The passage along the eastern bank of the lake to the causeway will give a sufficient idea of the nature of the park grounds without a similar description of the western bank. Let us return to the iron foot-bridge over the lake on the south, and at the mainland end we find a half-moon of grass, bounded by a semi-circular yew hedge, which shuts out the stables. Behind the stables is the garden, and a sylvan paradise, called, from a cave within it, the Grotto. Through this elysium runs the stream which flows from the lake, along the valley and out of the park, and the banks were adorned with ferns and flower-beds. In the grotto district was a small square house of one room, where the squire was accustomed to sit by the fire in winter when the weather was too keen to allow him to sit outside, and he had the door wide open, that he might talk, as he said, to cock robin and the magpies. The robins would sometimes pick up crumbs close to his chair, and even hop upon his shoes. In the summer months he allowed pic-nic parties to have the use of his grotto-paradise. He supplied cups and fire, and they made tea in one of the summer-houses. This was a great treat to schools, and all the associations of working people, choral, scientific, or mechanic, which abound in Lancashire, and the West Riding of Yorkshire. Waterton pitied the workers in cotton-mills, pent up in hot-rooms, and he loved to see them enjoying a holiday, and breathing the pure, fresh air. Few men who had walled in a park for the pursuit of a favourite study, would have thought of admitting the poor to share its beauties. But he was singularly unselfish, and, to the credit of the manufacturing classes of the North of England, no serious damage was ever done. They were trusted, and honour proved a more efficient guard than many policemen. The parties were accustomed to spend the afternoon at the grotto, swinging, dancing, and strolling about, and, as they are a musical race, they often in the evening, before leaving, came into the neighbourhood of the house, and sung or played "The fine old English Gentleman," and other tunes. They used to wind up their little concert with "God save the Queen." Many proprietors of beautiful parks throw them open to the public, but more, perhaps, keep them closed, and it were to be wished that, enlightened by Waterton's experience, they would allow the stately monuments of ancestral greatness, and present wealth, to be testimonies of their cordial good-will to their fellow-men.

All the accommodations provided for animals were kept in admirable order. To woodcraft Waterton paid unremitting attention, and he knew the state of health of every tree in his park. If one of the number had suffered in a storm, or looked sickly, he would climb and inspect it. From constant practice he could ascend trees at an age when most men can hardly hobble with a stick, and in his eighty-third year we went up a tall oak together to look at a nest. The giants of the forest require and will repay care as well as younger woods. A poplar planted by his father, and now near a century old, had been more than once cleft by lightning. Waterton always had the rents carefully closed with flag and mortar, and the old hereditary tree flourished in spite of its gaping wounds.

The confidence protection inspires brought close up to Walton Hall a number of birds which have usually to be sought in districts remote from the habitations of men, and Waterton was assiduous in learning all his teeming population could teach. His drawing-room window commanded a view of the greater part of the lake, of the heronry wood, and the Ryeroyd Bank, and he had a large telescope to assist his observation. Six or eight herons might often be seen at one time in every variety of position, from lying almost flat on the grass to standing with outstretched neck. It is commonly said in books on ornithology, that herons neither "dive nor swim." I have known them do both. One August, when I was looking at a heron, it disappeared under water for full half a minute, at a spot where the lake was from six to seven feet deep, and on coming up it rose from the surface and flew away. In the following September, on a sultry evening, when the fish were jumping, I saw a heron with outstretched neck, swimming this way and that in the middle of the lake. I watched it for five minutes, when it took flight from the water where it was swimming.

The show of water-fowl in winter was wonderful. I once, in the month of January, counted 1640 mallards, wild duck, widgeon, teals, and pochards, thirty coots, and twenty-eight Canada geese, and there must have been many more out of sight of the window. A few cormorants usually joined the throng, with gooseanders, tufted ducks, and abundance of water-hens. One day when the ducks were alighting on the ice, in parties from five or six to a dozen, Waterton said to me, "Look at the way the wild duck settle on the ice. They sail round, and come close to it, and you think they are going to settle, but no! they take another round, and then another. You think each time that they are going to end their flight, and each time you are disappointed. It always reminds me of a preacher in church. You think he has done his sermon, but no! he goes on with renewed vigour for another period. As you never know when the ducks will alight, so you can never tell when he will end." The widgeon alone of the duck tribe foraged during the day, and they were always to be seen plucking grass near the plover swamp. At night all the birds on the lake flew off to their feeding grounds, with the exception of the coots and the water-hens. There was a particular spot in the park where, for about an hour, you might hear a continuous rushing noise overhead, after the feathered host had commenced their nocturnal flight.

To speak of the land birds would be to write a considerable treatise on ornithology, and I must dismiss them with one or two slight remarks. On a July evening you could usually see the night-jar either perched upon, or flying about some oaks in a meadow, and if you crept up quietly you could observe that this bird always sits lengthways on a bough, and never across it. When you whistled sharply, the night-jar would answer, and unless you replied, it went on calling till you whistled again. I once kept up this species of dialogue for a quarter of an hour. A man with a cunning voice might doubtless draw out many kinds of birds. How the owl can be enticed into a colloquy is known from Wordsworth's description of the boy at Winander.*

> "With fingers interwove, both hands
> Pressed closely palm to palm, and to his mouth
> Uplifted, he, as through an instrument,
> Blew mimic hootings to the silent owls
> That they might answer him. And they would shout
> Across the wat'ry vale; and shout again
> Responsive to his call,—with quiv'ring peals
> And long halloos, and screams, and echoes loud
> Redoubled, and redoubled; concourse wild
> Of mirth and jocund din!"

Any one can make a corn-crake come from the far side of a meadow, and in old times the use of quail calls was general in England. Waterton had a curious contrivance of the kind which had belonged to his great-grandfather.

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* His name was William Raincock. He was a school-fellow of Wordsworth, and died at twelve years of age.

The success of Waterton in affording the animal creation a refuge from persecution, met here and there with a check. The murderous vigilance of bird-stuffers outside the wall was fatal to the green woodpecker, and it was long absent from the park. In 1864 we saw a fine specimen settle on a fir, and afterwards fly across the lake, and it sung out a clear "ha! ha!" as it went. Thenceforward a pair frequented one of the woods, and, what was peculiar, a single bird roosted throughout the winter of 1865 in a cell of the starling tower. There are mysteries in the economy of animals which sometimes cause them to frequent or desert a spot fitfully, without any apparent reason for the change. A walled bank in the garden was pierced with upwards of fifty holes, and fitted with drain pipes, that they might form nestling places for sand-martins. The year they were completed every hole was tenanted by a pair of martins. The next year they were all left empty, and empty they remained till 1864, when the martins returned. This was an exception to the rule. The birds were in general steady to their haunts, and throve and multiplied exceedingly. And no wonder when their rate of increase is considered. There were above 160 rooks' nests at Walton, and if we suppose that three young birds were reared in each nest, the parents and progeny together mounted up to an annual population of 800.

A few boiled potatoes were put on the island for the jack-daws when the weather was severe, and the water-hens now and then took a peck at them. This was the only feeding done at Walton Hall. The hordes of birds were attracted by the simple circumstance that they were let alone. Without some security for his land, man relapses into the nomadic state, and population diminishes. Without security for life, birds not only decrease, but they are constantly on the move, and the shyness of the majority renders it impossible to observe them. Waterton never fired a shot within his park, never permitted dogs or keepers to range the woods, nor allowed a boat on the lake from Michaelmas-day to May-day. Along with the herons, ancients princes among game, flourished the modern lords, the pheasants, in the presence of every species of vermin, save the most destructive vermin of all, the animal-destroyer, who goes by the name of a gamekeeper. Nature herself preserves the balance, with little interference from man, who is apt in his ignorance to shoot the policeman under the belief that he is killing the thief. The owls and kestrels which prey upon mice, the numerous birds which feed upon insects and grubs, would long ago have been exterminated, if the power of past generations of farmers had been equal to their folly, and just when they congratulated themselves that they had secured their crops, the whole would have vanished like the verdure of Egypt under the inroad of locusts. Nothing has done so much to propagate sounder opinions as the essays and example of Waterton.

The inside of Walton Hall, like the outside, told you at once that you were in the home of a naturalist. Along the bannister-side of the stair-case were cases of stuffed birds, and on the wall side hung pictures, one of them a painting by Captain Jones, a school-fellow of Waterton, and representing the cayman dragged along the sandy bank of the Essequibo with the Wanderer on its back. At the head of the stair-case was an open room, called the organ gallery, which was filled with stuffed animals and pictures, and continued the array of art and nature which faced each other on the stair-case. Here, too, was a clock, three hundred years old, which had belonged to Sir Thomas More, and which struck the hours so clearly that when the windows were open it could be heard on the edge of the lake. Nearly all the creatures with which we become familiar in the delightful pages of the Wanderings were represented in the Walton Hall Museum. There you might gaze at the splendid jacamars, refulgent in gold and metallic green, the milk-white campanero, or bell-bird, whose romantic toll will cheer the traveller in its native forests at a distance of three miles, the beautiful hou-tou, so called from the sound of its plaintive note, the toucans with their bright coloured and enormous beaks, the gorgeous cotingas, and many other glories of the tropics. Mixed up with the genuine specimens was Waterton's taxidermic frolic, the nondescript, and a creature he called Noctifer, or the spirit of the dark ages, which was made of the gorget and legs of a bittern, and the head and wings of an eagle owl, so skilfully blended that no one but an ornithologist could have detected the playful imposition. The whole of the collection had been prepared by the hands of its owner, and every animal was in an attitude true to life, and the best for displaying its beauties of form and colour. Such art in stuffing was never beheld before, and can only be attained by laborious practice, and a thorough knowledge of the anatomy and habits of the creature to be reproduced. This exquisite museum is now at Ushaw College, and is worth travelling the length of England to see.

On the top floor of the house, in the opposite direction to the organ gallery, was the chapel, and a small room which was at once Waterton's study, bird-stuffing workshop, and bed-room, if bed-room it could be called when there was not any bed. The Wanderer always slept on the boards, wrapped up in a blanket. His pillow was a block of oak, which had been originally rough, and in course of years had become almost polished by use. The entire room revealed at a glance the simple tastes of its occupant. Some prints and pictures, which in his eyes had a meaning superior to art, hung on the walls, some shelves contained his favourite books, his jug and basin stood on a chair, and he had a little round looking-glass and a table. Over the mantel-piece was an old map of Guiana, a record to him of living scenes and loving memories. For mere ornament's sake, there was nothing. To the sleeping eye all rooms are equally blank, and when Waterton was awake in his work-room he was mostly intent upon inward thoughts or outward occupations.

Waterton had a strong sympathy with the real observers of nature. On the death of Arthur Strickland he wrote, Dec. 4, 1863, "Where are we to look for another naturalist so true and so lucid in his description of our British Fauna? Whip me, you dry and scientific closet naturalists! Arthur Strickland never wrote a line that did not impart real instruction to the reader, and I used to say, that he had more orthodox ornithology in his little finger, than most of our mighty closet naturalists have in their entire carcases. So far as correctness in the list of British birds is concerned, I consider his collection without a rival. It is a splendid exhibition of his ardour, his talents, and his indefatigable perseverance, and it shows him to have been a consummate master in the nature and plumage of British birds." During the tour through the United States, Waterton made the acquaintance of Mr George Ord, of Philadelphia, another genuine field naturalist, as may be seen in his Life of Wilson, and his paper on the Box Tortoise in the Linnæan Transactions.

Mr Ord returned Waterton's visit, and stayed at Walton Hall. The friends kept up a regular correspondence on their common pursuit, and the letters, which amount to several hundreds, show that the retired life of our naturalist squire had not diminished his interest in politics at home and abroad. He cordially sympathised with the Irish at the time of the Repeal agitation. Writing on October 13, 1843, he says :—"When a nation wills a thing, there is no resisting it; and I am fully of opinion that Repeal must come in the end. If O'Connell can manage to keep his millions from breaking the law, he will puzzle our tyrants on this side of the channel beyond all manner of belief. So far his proclamation has had the desired effect; and has sorely disappointed the huge armaments sent over to massacre the poor Irish at the earliest opportunity. The affairs of Ireland are now in a situation to attract the notice of the whole world; and if things shall come to blows, my earnest prayer is, that Ireland may humble our intolerable pride in the dust." In another letter (March 5, 1848) he speaks of French affairs, "And now what shall I say of the astounding revolution which has just taken place in France, and upset in a few hours all that Louis Philippe had been planning for a length of years to keep his offspring in possession of the crown of France? Let it be a lesson to surrounding potentates how they act the despot. Their day of weeping may be nearer at hand than they expect. Louis imagined that the fortifying of his capital would enable him to destroy his rebellious subjects, should they ever dare to resist his mandates. The people got possession of all his cannon in a few hours, and he himself was forced to run away. Up to the present hour nobody knows where he is. This stupendous affair will, in my opinion, for ever close France to the Bourbons. She prefers a republic. Let her have it." Later on again, Waterton was distressed at the civil war in the United States, and in letter after letter he feelingly deplores the bloodshed and destruction going on there. It reminded him, he said, of the description in Lucan's Pharsalia. A letter of his to Mr Ord (September 11, 1862) says, "As you do not allude to American politics, I can easily conceive that you feel sick at heart. So I will state once for all, that I too, my dear friend, am really sick at heart, when I reflect that the finest country and constitution in the whole world are doomed to be rent in pieces by civil discord." In judging of foreign affairs Waterton shows none of those prejudices in favour of his own nation which frequently obscure the political vision of Englishmen. In another letter to Mr Ord (September 11, 1858), after discussing the laying of the Atlantic cable, he writes, "We Englishmen are a fine set of fellows, only to be equalled by our western brother. We have the largest empire in the world : we have half of the longest rope in the world : we possess the largest ship in the world : we have the largest glass-palace in the world : we have the best roast beef in the world : we have the most adulterated food in the world : we are the greatest boasters in the world : and we have the greatest national debt in the world. With all these immense advantages, we have an undoubted right to consider ourselves the real lords of the creation." The principle which regulated the squire's opinions was plain. He held that nations ought to be governed according to their own desire, and that to trample upon the convictions of any country was tyranny. He and his ancestors had sacrificed much to conscience, and he had learned to respect its rights in all men, whether they agreed with him or differed from him.

Waterton was too original, earnest, and plain-spoken not to have enemies as well as friends. After the publication of the "Wanderings," he contributed several articles to *Loudon's Magazine of Natural History*, and these were sometimes attacked. His rule was never to be the aggressor, but when he was assailed he retaliated, and always had the best of the argument, for he rarely ventured upon a statement which he had not abundantly verified, and his adversaries were careless observers or book-worms. A genuine zoologist would not have committed their blunders. However they might have figured in the transactions of scientific societies, which unfortunately afford injurious facilities for the hasty promulgation of incomplete investigations, ill-digested papers, and shallow theories, they were incapable of contending with a profound naturalist, like Waterton. He had a passage of arms with Audubon, the American, who professed to have spent many years in studying the habits of birds, and who published an enormous work with plates, which he asserted were drawn from the life. The pseudo-naturalists had not the knowledge with which to test his pretensions. They received him at his own valuation, and Professor Jameson, in lauding Audubon, aimed a side-blow at Waterton. This drew forth from Waterton a demonstration that the letter-press and plates of Audubon proved his ignorance of the animals he claimed to have investigated for years. Swainson and many others had the rashness to provoke a similar exposure. In fact, Waterton flogged two generations of quacks, and it would be well if a second Waterton arose with a new rod and a larger. The castigations he administered were free from personal animosities. Forced into controversy he carried it on with spirit, and when the fight was over his feelings to his foes were those of the soldier after a battle. He was always ready to befriend antagonists.

Waterton's way of life was primitive. He got up at three, lit his fire, and lay down upon the floor again for half an hour, which he called a half hour of luxury. He had shaved and dressed by four, and from four to five he was upon his knees in the chapel. On his return to his room, he read a chapter in a Spanish life of Saint Francis Xavier, which concluded his early devotions, and he began the secular work of the day with a chapter of Don Quixote in the original. He next wrote letters, or carried on bird-stuffing, till Sir Thomas More's clock struck eight, when, punctual to the moment, the household at Walton sat down to breakfast. His was frugal, and usually consisted of dry toast, watercress, and a cup of weak tea. Breakfast ended, he went out till noon, superintending his farm, mending fences, or clipping hedges. If the weather was cold he would light a fire in the fields. From noon to dinner, which was at half-past one, he would sit indoors and read or think. Dryden, "Chevy Chase," Dyer's "Grongar Hill," "Tristram Shandy," "The Sentimental Journey," Goldsmith, White's "Natural History of Selbourne," and Washington Irving, were his favourite English literature, and what he liked, he read many times over. After dinner he walked in the park, and came in a little before six to tea. He retired early to bed, but if the conversation was interesting he would stay till near ten. He rose at midnight to spend a few minutes in the chapel, and then went back to his wooden bed, and oaken pillow. His austere, calm, invigorating habits seemed to promise that his life, already prolonged, might be lengthened out for several years. In spite of illness and wounds, his general health remained good, and his mind showed no symptoms of waning power. But the adventurous traveller who had escaped pestilence, fevers, earthquakes, shipwreck, precipices, serpents, and wild beasts, was destined to perish by an accident which befell him in his own park in the midst of apparent safety.

I was staying at the time at Walton Hall, whither I had gone upon an invitation, which was one of the last letters Waterton lived to write:—

"WALTON HALL, *Friday, May 5th*, 1865.

"MY DEAR NORMAN,—I have received your communications, and I thank you for them. Two nightingales are singing here most melodiously,—one in Stubbed-piece, the other in our plover swamp. Cannot you manage to slip over and listen to them? Probably it may be that you have never yet heard the song of the far-celebrated chorister.—In great haste, very truly yours,

"CHARLES WATERTON."

I happened just then to be reading for an examination, and Waterton asked me, whenever I was up at twelve, to go and chat with him for a few minutes after he came back from his midnight visit to the chapel. I went accordingly on May 24, 1865, and found the dear old wanderer sitting asleep by his fire, wrapped up in a large Italian cloak. His head rested upon his wooden pillow, which was placed on a table, and his thick silvery hair formed a beautiful contrast with the dark colour of the oak. He soon woke up, and withdrew to the chapel, and on his return we talked together for three quarters of an hour about the brown owl, the night-jar, and other birds. The next morning, May 25, he was unusually cheerful, and said to me, "That was a very pleasant little confab we had last night: I do not suppose there was such another going on in England at the same time." After breakfast we went with a carpenter to finish some bridges at the far end of the park. The work was completed, and we were proceeding homewards when, in crossing a small bridge, a bramble caught the squire's foot, and he fell heavily upon a log. He was greatly shaken, and said he thought he was dying. He walked, notwithstanding, a little way, and was then compelled to lie down. He would not permit his sufferings to distract his mind, and he pointed out to the carpenter some trees which were to be felled. He presently continued his route, and managed to reach the spot where the boat was moored. Hitherto he had refused all assistance, but he could not step from the bank into the boat, and he said, "I am afraid I must ask you to help me in." He walked from the landing-place into the house, changed his clothes, and came and sat in the large room below. The pain increasing, he rose from his seat after he had seen his doctor, and though he had been bent double with anguish, he persisted in walking up-stairs without help, and would have gone to his own room in the top-story, if, for the sake of saving trouble to others, he had not been induced to stop half way in Miss Edmonstone's sitting-room. Here he lay down upon the sofa, and was attended by his sisters-in-law. The pain abated, and the next day he seemed better. In the afternoon he talked to me a good deal, chiefly about natural history. But he was well aware of his perilous condition, for he remarked to me, "This is a bad business," and later on he felt his pulse often, and said, "It is a bad case." He was more than self-possessed. A benignant cheerfulness beamed from his mind, and in the fits of pain he frequently looked up with a gentle smile, and made some little joke. Towards midnight he grew worse. The priest, the Reverend R. Browne, was summoned, and Waterton got ready to die. He pulled himself upright without help, sat in the middle of the sofa, and gave his blessing in turn to his grandson, Charlie, to his grand-daughter, Mary, to each of his sisters-in-law, to his niece, and to myself, and left a message for his son, who was hastening back from Rome. He then received the last sacraments, repeated all the responses, Saint Bernard's hymn in English, and the first two verses of the *Dies Iræ.* The end was now at hand, and he died at twenty-seven minutes past two in the morning of May 27, 1865. The window was open. The sky was beginning to grow gray, a few rooks had cawed, the swallows were twittering, the land-rail was craking from the Ox-close, and a favourite cock, which he used to call his morning gun, leaped out from some hollies, and gave his accustomed crow. The ear of his master was deaf to the call. He had obeyed a sublimer summons, and had woke up to the glories of the eternal world.

I have been thus minute in describing Waterton's death, partly because of the deep impression it made upon me, and partly because it was a characteristic conclusion to his simple, manly, pious life. He had many points of resemblance to his ancestor, Sir Thomas More, and there was a striking likeness in the consideration for others, the faith in religion, the quiet humour, and absence of fear, which distinguished the last hours of both. And the reason was the same; they both lived each day as if they were to die at its close. "I know what risks I run in exposing myself to dangers," wrote Waterton to Charles Edmonstone, December 18, 1826, "and on this account, I settle *all my accounts every week*, and if I were to die to-day, my executors would literally not have five minutes trouble." He strove to settle his far greater account at midnight and early morning in the chapel, and doubtless at many intervals besides, which were known only to himself. His entire life was a preparation for death, and when death came, he had been long familiar with it.

While Waterton lived, I had a warm affection for him, which has deepened with increasing knowledge and experience. In estimating his character and attainments, I shall endeavour to be guided by facts, and not by private partiality. As a man of science he has never, in my opinion, obtained his rightful place. Two circumstances conspired to keep down his credit. He provoked many enemies by his advocacy of truth and exposure of error, and learned writers assumed that his books must be superficial because they were popular. None can deny that scientific works are usually dull; but it does not follow that dulness is an attribute of science. The interest, on the contrary, which Waterton imparted to his writings, was based on the depth of his knowledge. The attention he paid to anatomy is apparent in his description of the sloth and the ant-eater, and is conspicuously exemplified in the living form he gave to the specimens in his collection. He was an unwearied outdoor observer, as well as a diligent dissector; for the structure of animals is adapted to their functions, and those who are ignorant of the functions cannot rightly appreciate the structure. Animal economy is the key to comparative anatomy. His clear perception of the necessity of uniting departments which were commonly pursued separately, entitles him to take rank with the founders of a school. His improvements in the technical art of stuffing grew out of this combined familiarity with the habits and organisation of animals, and thus the wide range of his studies advanced natural science from its highest down to its lowest branch. The minds of great men are richer than their books. For every observation which Waterton had printed, he had made at least a hundred. In all his pryings into animal ways, his accuracy was extreme. To this hour he has not been convicted of a single error, and while numerous pretentious works of contemporary naturalists, who were celebrated in their day, have been swept away by the tide of increasing knowledge, his modest little volumes remain permanent landmarks. Their intrinsic value has proved greater than that of their ambitious competitors, in much the same proportion that their parade of learning was less. Waterton did not even care to give the Latin names of the creatures he described, aware that a repulsive nomenclature would scare away the public, and be of little service to science. When these qualifications are summed up, there will be no difficulty in detecting the source of the light which sparkles on the page of Waterton. He did not recast the information picked up from books. He did not even retail the hearsay collected on the spot. He was a man of acute intellect, well prepared by previous training, who related the original observations of his own understanding eyes. His remarks were written at the time in the forest, and have the freshness and the truth of reality. Hence his list of the fauna of Guiana never savours of a catalogue, and never palls. Instead of our yawning over diffuse pedantic verbiage, he cannot speak of any creature without our wishing that his description was longer; nor stop in his travels without leaving us eager to continue our journey through the wilds. His "Essays in Natural History" may take their place by the side of White's "Natural History of Selbourne," and there is nothing on tropical natural history which deserves to be named with the "Wanderings."

The information of Waterton is set off by a lively quaintness of style, which is pleasing because it is unaffected, and reflects the inbred originality of the man. If he has indulged largely in classical quotations, they are at least always apt, and it must not be forgotten that they were a fashion at the time when his mind was formed. If, on some subjects, he has expressed opinions which may appear hasty and unsound, and which he, perhaps, might have modified on future consideration, this is no reason for depreciating his observations on natural history, where he was entitled to speak with the authority of a master. If some of his later productions are thin in substance, and poor in style, their inferiority cannot detract from the wealth of matter, and charm of manner, which adorn his delightful "Wanderings" and "Essays." A writer's powers must be tested by the works in which he puts forth his strength. We estimate the genius of Shakespeare by "Macbeth" and the "Midsummer Night's Dream," and not by "Titus Andronicus" and "Troilus and Cressida."

When I pass from his intellectual qualities to his moral, it is still more difficult to do Waterton justice without seeming to be influenced by personal prepossessions. His courage was unbounded; he feared neither physical danger nor obloquy. No abuse ever kept him from saying what he believed to be true, or from doing what he thought to be right. The pertinacious homage he paid to conscience might, to people who knew him imperfectly, wear the aspect of opinionativeness and pride, whereas his humility was perhaps his most signal virtue. His masculine courage was blended with a feminine tenderness, and he could not bear to see either man or beast suffer. Destitution always touched his compassion. He carried an old knife in his pocket, which he gave to the shoeless poor whom he chanced to meet in his walks, and they took it to a shoemaker in Wakefield, who had directions to furnish the bearer of the token with a pair of shoes. On one occasion, when Waterton had not the token with him, he made over his own shoes and stockings to a wayfarer with bleeding feet, and walked home bare-foot. His anxiety that the poorer classes should participate in the enjoyments of his park was a proof of his sympathy with them. His wide-spread charity was unostentatious. He never put his name to a subscription-list, though he often gave, and he silently allowed himself to be abused for not contributing to a fund to which he was one of the largest donors. He shrunk from the tribute of public testimonials to his fame and philanthropy, and when a service of plate was about to be presented to him at Nottingham, for his exertions in a case of hydrophobia, he left the town the moment he heard of the project, and wrote to request that the money might be given to the sufferer's widow. His virtues were based upon the strongest religious belief and he was strict in his adherence to the ritual of his faith. His rigid observances did not render him gloomy. His disposition was cheerful, and often sportive, and would sometimes break out into boyish playfulness. He was not a profuse talker, but his well-chosen words, his racy humour, his fascination of manner, his good-nature —which was an inner pervading sentiment, and not a mere outside air—won the hearts of all who were long in his company, and there was nothing they would not have done to serve him.

The funeral of Waterton was on his birthday—June 3—the exact day year on which he rowed his sister-in-law to see his burial-place. Foremost upon the lake went a boat, which carried the Bishop of Beverley and fourteen priests, who chanted the Office for the Dead as they rowed along. Next came a boat which bore the coffin. The boats with the mourners followed, and the procession was closed with a boat, which told its own pathetic tale, for it was empty, and draped with black. Between the grand old oaks, and at the foot of the cross he had folded in his arms just a twelvemonth before, to show upon what he based his hopes, the mortal remains of Waterton were committed to the ground, and the bishop blessed the good man's grave. The inscription at the base of the cross which tells whose bones that cross protects, and whose faith it proclaims, was written by himself.

ORATE PRO ANIMA,
CAROLI WATERTON,
CUJUS FESSA
JUXTA HANC CRUCEM
SEPELIUNTUR OSSA.
Natus 1782. *Obiit* 1865.

Waterton's Grave.

THE MONKEY FAMILY.

"*Ex Fumo Dare Lucem.*"

HAVING formerly placed the ant-bear and the sloth in a true position with regard to their habits, which had never been properly described, I could wish to say a word or two on those of monkeys, ere the cold hand of death "press heavy on my eyelids;" for having now been an inhabitant of this planet some seventy-four years, every rising sun informs me that my mortal course is drawing to its close; and methinks that beautiful verse of the poet comes aptly home to me,

"Omnem crede diem tibi diluxisse supremum."

The study of zoology is not so simple now as it formerly used to be. Our learned instructors in this pleasing art have fabricated systems so abstruse, so complicated, and so mystified withal, that I find little pleasure, and still less profit, in perusing the books which contain them. Indeed, I candidly avow that I am not learned enough to comprehend the exact meaning of many newly-coined words, whilst the divisions and subdivisions of species in the birds perplex me beyond measure, and ever and anon make me as angry as the "fretful porcupine." So that, when I have managed to struggle through a few chapters of modern improvements in the arrangement and nomenclature of animated nature, I feel none the better for the labour. Not long ago, in glancing over a history of monkeys, which had been sent by a friend for my perusal, I had to pronounce the following words, and comprehend their meaning: "Cereopithecus, Gallitrix, Sciureus, Oristile, Arachnoides, Subpentadactylus, Hypoxanthus, Platyrrhini, Pygerythrœus," &c. Possibly I may be wrong in noticing these abstruse words, as, for aught I know to the contrary, they may be essentially necessary in these times of scientific novelty, to help the young naturalist in his journey onwards to the temple of fame. Towards the close of the last century, I well remember, when Billy Pitt's tax upon hair-powder changed the very nature of ornamental hairdressing. The barbers were all up in arms ; and tails, both pig and club, as they were then termed, fell in a universal massacre.

One order alone deemed it important to retain the grotesque absurdities of former days. The lawyers stood true to the powdered wig and gown, and have patronised them up to the present hour, in spite of their uncouth appearance. The general impression was, that gowns of unmeaning shape, and hoary wigs with greasy curls and downward tails, added dignity and consequence both to judge and counsel. I verily believe, that if an unfortunate criminal just now were defended by a sergeant-at-law, without his professional wig and gown, and then condemned to death by my lord judge in plain clothes, the people would exclaim, "That poor devil has not had a fair trial!" So it is with natural history. Divest a book on birds, for example, of its unintelligible nomenclature, together with its perplexing display of new divisions, and then it will soon be declared deficient in the main points, and be condemned to slumber on the dusty shelf. If, in this little treatise on monkeys, I shall succeed in imparting a love for natural history into the minds of my young readers, and at the same time convince them how much is gained in the field, and how little in the closet, my time and labour will be well repaid. I will introduce no harsh words to confound them, nor recommend to them systems, which at best, are unsatisfactory inventions. All that I have got to say, shall be placed before them in so clear a point of view, that every reader, be his education light or solid, will be able to comprehend my meaning, and nothing more than this can be required.

Let us now proceed to investigate the form and economy of a race of animals which, although known so early as the time in which Aristotle lived, still even in our own days of supposed universal knowledge, seem to be but imperfectly understood.

The whole family of those amusing and interesting creatures usually denominated monkeys, stands conspicuous in the catalogue of animals. I shall at once divide it into four distinct departments, without any reference to subdivisions; and this plan will be quite sufficient for the instruction of our young naturalists.

I would wish to impress upon their minds that, notwithstanding what ancient and modern philosophers have written to the contrary, monkeys are inhabitants of trees alone, when left in their own freedom; that, like the sloth, they are produced, and live and die in the trees; and that they rarely or never resort to the ground, except through accident or misfortune.

I would also entreat young naturalists to consider well, and always bear in mind the formation of the extremities of the four limbs of a monkey. This animal, properly so speaking, is neither a quadruped nor what moderns now style a quadrumanus—that is, a creature with four hands. The two limbs of its fore parts may safely be termed hands to all intents and purposes. Whilst the two limbs of its hind quarters are, in reality, neither hands nor feet, but, "centaur-like," partake of the nature of both, their fore part, being well-defined fingers, and the hind part a perfectly-formed heel. Hence, we are not surprised at the self-possession which these agile animals exhibit, when left to their own movements in their native woods.

In my arrangement, then, of the monkey family, I place the ape at its head; secondly, the baboon; thirdly, the monkey with an ordinary tail; and, fourthly, the monkey with a prehensile tail.

The ape is entirely without a tail, and in this he resembles man. He is an inhabitant of the Old World only.

The baboon has a short tail, somewhat in appearance like the tails of our own pointer dogs, truncated and deformed by the useless and wanton caprice of civilised man. It is an inhabitant of the Old World only.

The monkey with an ordinary tail, long and bushy in some species, and only with a moderate supply of hair in others, is found in both continents, and in several of their adjacent islands.

The monkey with a prehensile tail, when in its wild state, is never found except in America; so that it is entirely confined to the New World, and, of course, was never heard of in the other three quarters of the globe until the discovery of that country by the Europeans.

This prehensile tail is a most curious thing. It has been denominated, very appropriately, a fifth hand. It is of manifest advantage to the animal, either when sitting in repose on the branch of a tree or when in its journey onwards in the gloomy recesses of the wilderness. You may see this monkey catching hold of the branches with its hands, and at the same moment twisting its tail round one of them, as if in want of additional support; and this prehensile tail is sufficiently strong to hold the animal in its place, even when all its four limbs are detached from the tree; so that it can swing to and fro, and amuse itself, solely through the instrumentality of its prehensile tail—which, by the way, would be of no manner of use to it did accident or misfortune force the monkey to take up a temporary abode on the ground. For several inches from the extremity, by nature and by constant use, this tail has assumed somewhat the appearance of the inside of a man's finger, entirely denuded of hair or fur underneath, but not so on the upper part. By way of recapitulation, then, let the young naturalist, when he turns his thoughts on the monkey family, always bear in mind that a monkey without a tail is a real ape, found only in the eastern parts of the Old World; that a monkey with a short tail, like that of a mutilated pointer dog, is a baboon from the same regions; but that a monkey with a long tail of common appearance, may be an inhabitant either of the Old World or of the New; and, lastly, that when a monkey presents itself before him with a prehensile tail, he may be as sure, as he is of the rising sun, it is from the never-ending forests of the New World.

The termination of all the four limbs in every known monkey is pretty nearly the same, varying only in some trifling particulars in certain species. Thus, for example, the thumb is longer in some than others; and in others, again, the fingers of what are usually styled the hands, from the knuckles to the first joint, are connected, and give the hand a somewhat unsightly appearance. Nevertheless, these variations from the general form are so trivial and unimportant that they are hardly worth notice; and they affect not materially the ordinary appearance of the limb: so that, were the four hands of a monkey (no matter from what part of our globe) cut off and presented for inspection, the inspecting naturalist would know at the first glance that they had belonged to a monkey, and to a monkey alone. In other animals a man may be deceived. Thus, it would require a keen and knowing eye to distinguish the feet of some wolves from those of some dogs; and the feet of jackals may occasionally be confounded with the feet of foxes. But there is no mistaking what are usually termed the hands or the feet of a monkey. There is nothing like them in any other animals throughout the whole range of animated nature. From the huge ape of Borneo, in the east, down to the minute sacawinki of Guiana, in the west, we may be quite assured that they can be recognised most easily on the very first inspection.

Let the enterprising young naturalist pause a little here, and bring to his mind the singular formation of a monkey. Omnipotence has given various shapes of feet to various animals, and these feet support the respective animals on the ground with most admirable ease and aptness. But with the monkey it is not so. We can find nothing in the economy of its feet, so called, to demonstrate that they are intended for the ground. The projecting thumb, and the long toes or fingers, argue that they are inadequate for a journey on land, or even to make it a temporary abode, now and then, for pleasure or for ease. Indeed, their delicacy and tenderness show beyond dispute, that they have not been in the habit of coming in contact with the sand and the flints on the paths which nearly all other animals pursue.

These considerations force one to conclude that monkeys, although gifted with astonishing power of limb, are destined, by the wisdom of Providence, to have a region of their own. And when I shall have placed them in it, I trust that I shall be able to prove by the very nature of tropical forests, that trees can support, and do support, the entire family of monkeys, apart from the ground, in evident security, and with a never-ending supply of most nutritious food.

By way of varying the dull monotony of hackneyed description, I will introduce here, a conversation betwixt an ant-bear and a howler or preacher monkey, although, most probably, at the risk of displeasing scientific compilers, and of incurring their monitory censure. Still, methinks, it will not be altogether lost upon the general reader. It will tend to show the true habits of two animals hitherto but imperfectly known.

DIALOGUE.

"I thought that you inhabitants of the trees, Mr Howler," said the ant-bear, "never troubled the ground?" "I thought so too," replied the preacher monkey, "until very lately. But I fancy that I must have got drunk one night at a party of our preachers. All I remember was, that I came whack to the ground; and that soon after daylight, I found myself on a man's shoulders, and he was carrying me off. When I had recovered my senses sufficiently to know what was going on, I made my teeth meet in his ugly cheek. So he threw me down and left me to myself. All this was pure accident; but here, alas! I am, with my back broken, and for ever incapacitated from returning to the trees, which are my native haunts." "I see clearly," replied the ant-bear, "that you are out of your element. But pray, Mr Howler," continued he, "how many of you howler monkeys assemble together, when you have determined to give the woods the benefit of your preaching? We are gravely told by an author that you assemble for that purpose." "The idea of our howling in concert," rejoined the preacher monkey, "is most absurd. 'Tis the invention of a wag, believed and handed down in writing by some closet-naturalist or other. Gentlemen of this last description seldom possess discrimination enough to distinguish truth from error. They will just as soon (most unintentionally, no doubt) offer husks, left by swine, for sound corn. Had one compiler not referred his readers to a work, written by a man whom he styles 'an eccentric writer,' the public would still be ignorant of my true history. Now, that 'eccentric writer,' disdaining information acquired in the closet, dashed boldly into the heart of our tropical forests, and there convinced himself that one solitary individual of my tribe produces, by his own efforts alone, all those astounding sounds which naturalists have attributed to a whole bevy of monkeys assembled on the trees to howl in concert. But you, Mr Ant-bear, if reports be true, are said to get your daily food from ants' nests, high up in the forest trees?" "Mr Howler," replied the ant-bear, "if writers on natural history bring *you* to the ground from the tops of the trees, in order that you may find your daily food, I don't see why these gentlemen should not elevate *me* to the tops of trees in quest of mine."

"Now, good Mr Howler, pray look at my hind feet, and examine them well. They are just like those of a dog, totally unfit for climbing, whilst the fore ones are most unlikely for that purpose. The curvature of the three long claws, added to the inward bending of the foot itself, ought to convince anybody, one would think, that we ant-bears draw no nutriment from ants' nests in the high trees of the forest. 'Tis quite true that huge ants' nests are seen amongst the trees; but it does not follow from this that we are to place our lives in jeopardy by attempting to draw our food from them. The ground itself swarms with millions upon millions of insects, fat and healthy, through the whole extent of our wooded empire. Upon these ants I exist. Neither am I in fear of an enemy. My skin is tough enough to resist the teeth of a hungry tiger, whilst my claws are the dread of every rushing foe." "Then," remarked the howler monkey, "our respective customs are opposite in the extreme. You draw your nutriment from the ground, whilst I procure mine from the trees. You would perish in the trees, and I should die on the ground for want of food. Were I to abandon the trees, and be attacked on the ground, my death would be certain; for I can neither save myself by flight nor by fight. In the trees alone I am safe; whilst you, Mr Ant-bear, would be awkwardness itself in a tree, and would soon wish yourself down again."

Here the conversation ended;—and from it we may infer, that the information acquired by the "eccentric writer" in the heart of the forest, is more to be depended upon than that of the scientific compiler, who draws up the history of monkeys in his own ornamental study. I can well imagine that an attempt, on my part, to place in a new light the hitherto accepted habits of the monkey family, carries with it an appearance of presumption bordering, perhaps, on self-sufficiency. How is it likely, sages will remark, that we can possibly be in ignorance of the true economy of an animal, known and described before the days of our redemption? Are then the knowledge of Linnæus,—the industry of Buffon,—the researches of Dampier, and the opinions of gone-by writers, to be thrown into the back-ground by one of little notice in the walks of science? To say nothing of our modern adepts in zoology, whose herculean labours have enkindled such a galaxy of light in every department of natural history; and have shown to the world what study, what investigation, and what talents can effect when properly directed? Are all these champions in error, when treating of the monkey family? To this, I answer, have a little patience, courteous reader, everything shall be explained. In the course of this treatise, I will do my best to remove from my old grandmother's nurseries, accounts of the monkey family which deserve a better place; allowing at the same time a multitude of absurdities to remain there, as mental food for little children.

Before I proceed to examine minutely the movements and the haunts of the monkey tribe in a state of pristine freedom, and to place every individual of it in an entirely new point of view before my readers, I would fain draw their attention to an ape found in Gibraltar. It is called *magot* by French naturalists, and is an exception to the general rule,—on account of its peculiar locality. Portentous circumstances, in some very remote period quite unknown to us, may possibly have placed this insignificant portion of the widely extending family in its present ambiguous position. Or perhaps, even man himself, the everlasting interferer with the brute creation, may, in the ardour of a whim, have conveyed a few African apes to the Rock of Gibraltar, and left them there to propagate their kind. If so, the existence of apes on this stupendous fortress may safely be accounted for without any particular stretch of imagination on our part. But I believe there is nothing on record to show that this establishment of an apish colony had ever taken place. Still, curiosity is often on the alert to discover, how this ape found its way to the Rock of Gibraltar, and by what means it has managed to protect and support itself in a locality so devoid of forest, and so exposed to the rush of commerce and the roar of cannon. It is an ape in form and feature, possessing the same powers of mimicry, so notorious throughout the whole family of the monkey; nor is there anything observable in its nature to warrant a suspicion that it would deviate from the habits of its congeners were it placed, like them, in the unbounded regions of freedom and repose. At present the ape of Gibraltar is a prisoner at large, just as far as the Rock extends. For want of original documents concerning its ancestors, we must have recourse to speculation in order to obtain a faint ray of light upon the history of an animal whose habits, in one or two respects, differ widely from those of all other apes in the known world. Let us imagine then, that, in times long gone by, the present Rock of Gibraltar was united to the corresponding mountain called Ape's Hill, on the coast of Barbary; and that, by some tremendous convulsion of nature, a channel had been made between them, and had thus allowed the vast Atlantic Ocean to mix its waves with those of the Mediterranean Sea. If apes had been on Gibraltar when the sudden shock occurred, these unlucky mimickers of man would have seen their late intercourse with Africa for ever at an end. A rolling ocean, deep and dangerous, would have convinced them that there would never be again another highway overland from Europe into Africa at the Straits of Gibraltar. Now, so long as trees were allowed to grow on the Rock of Gibraltar, these prisoner-apes would have been pretty well off. But, in the lapse of time and change of circumstances, forced by "necessity's supreme command," for want of trees, they would be obliged to take to the ground on all-fours, and to adopt a very different kind of life from that which they had hitherto pursued. During the short period of winter in Gibraltar the weather is often cold and raw; most ungenial, one would suppose, to the ordinary tempreament of a monkey tribe, left prisoners on the solitary rock, and for ever prohibited from following the retiring sun in his journey to Capricorn, after he has paid his annual visit to the tropic of Cancer. It must have cost many years of painful endurance to have enabled animals so susceptible of cold as monkeys are, to preserve existence in such an uncongenial situation until the sun, returning from the southern hemisphere, could accommodate them with a sufficient supply of warmth. Be this as it may, there still exists on Gibraltar's towering mountain a small colony of apes, which, although in want of space to range in, seems never to have passed the neutral ground between the fortress and the realms of Spain. So that, up to the present time, history has no documents to show that apes have ever been found wild in any other part of Europe. During the short peace of Amiens, at the commencement of the present century, on visiting the fortress, I saw several apes passing over the rocks on all-fours towards the western side;—the wind blowing strongly from the eastward. It is difficult to conceive how these animals can procure a sufficient supply of food the year throughout, or how they can bear the chilling blasts of winter. One would suppose that they must often be upon very short commons, and often in want of a blanket. But "God tempers the wind," said Maria, "to the shorn lamb." It would be gratifying in the extreme if we could learn, by any chance, at what period of time this interesting ape made its first appearance on the Rock of Gibraltar. If apes migrate from Barbary to escape the winter season, then we may safely conclude that the apes, now prisoners in Gibraltar, would make a similar movement were it in their power to do so. But they cannot join their comrades, for there is a fearful rush of water betwixt Calpé and Abylæ. The Abbé Raynal, in his "History of the East and West Indies," has given us an account of a deplorable convulsion which, in remote antiquity, once took place beyond the "Pillars of Hercules." On the authority of Diodorus Siculus and Plato, he tells of a large island named Atalantis. "It was a region more extensive than Asia and Lybia taken together, and it disappeared in an instant." Might not, then, a convulsion of nature, in a still remoter period, have separated Europe from Africa, and have formed the present channel betwixt the far-famed Calpé and Abylæ? If we had proof sufficient that such a convulsion ever did occur, the location of apes in Gibraltar would no longer be a perplexing enigma.

Let us return to monkeys in general.

It is far from my intention to uphold or patronise the tricks and movements of these animals when under the command or tutelage of civilised man. Such antics have nothing to do with the real character of monkeys in their wild domains. Innumerable are the narratives, in modern and in ancient books, of gentleness in the apes, of ferocity in the baboons, and of playfulness in all of the tribe, from the orang-outang down to the little black sacawinki, no larger than a rat, in the interminable forests of Guiana.

These amusing anecdotes, in support of the marvellous, may all be very well to frighten children or to make them laugh; but, like Martin Luther's reformation, they are not orthodox.

Then, again, there has been a general and a great mistake on the part of those who have written on monkeys—that is, those writers have seldom or ever studied their habits in the localities in which nature has commanded them to move. This blunder has placed the whole family in anything but the real and necessary point of view. Thus, in our own events, when the sun was believed to roll round the earth, and rise every morning—*roseis sol surgit ab undis*, and go to bed regularly every night—*occiduis absconditur undis*, the whole world was under a pleasing delusion. Still everything went wrong in the planetary system. At last, in a lucky hour, the sun was proved to stand still, and then an immediate change took place. Away went all the poet's fictions—man saw his error, and he rectified it; and he found, for the first time, that the earth and all the heavenly bodies perform their revolutions in perfect harmony and in proper time. Might I be here allowed to compare small things with great ones, I would say that, up to the present time, the monkey has been placed in the same false position that the sun formerly maintained; and I would express a hope that, when I shall have clearly pointed out the error, my readers will have no hesitation in conceding to this interesting animal the real sphere of action which nature has allotted to it, and that they will allow it (as we now allow the sun) to act its proper and legitimate part in the vast drama of the creation. In a word, I will remove the whole family of monkeys from the ground to the trees. There, and there alone, ought we to contemplate the nature, and the movements, and the entire economy of the monkey.

For many years during my boyhood I myself had very erroneous ideas of the sloth, having read his history in the works of one of the most talented and indefatigable naturalists the world has ever produced. He describes the sloth as "a miserable and degraded production of nature, occupying the lowest degree in the scale of quadrupeds." But a sojourn of eleven months in the forests of Guiana, without having emerged from them for even a single day, afforded me the finest opportunity imaginable of contemplating the sloth in its native haunts. I soon changed my opinion of its habits, and I placed in the "Wanderings" all that I had observed of them. The public doubted the accuracy of my observations. Years, however, after this the arrival of a living sloth at the Zoological Gardens, Regent's Park, proved my statement to the fullest extent. The animal mounted up into a tree which had been prepared for it, and moved rapidly along, suspended by its natural hooks (we can scarcely call them claws), underneath the branches; but it was never observed to walk or to rest upon the upper side of those branches. The arrival, too, of a fine ant-bear in the same gardens afforded a demonstration to the visitors that it could not possibly move forward with any manner of ease or comfort to itself, unless the long and sharp claws of its fore feet were doubled up (to use the expression), and the fore feet themselves placed on their outward sides—a position entirely different from that of any other known quadruped, nevertheless quite adapted to the habits of the animal in question.

I beg to offer here two anecdotes, which will show how cautious one ought to be in giving full credit to statements apparently well-founded, and believed by the public in general.

The South American quadruped named tapir is considered the largest wild animal in the forests of Guiana. It is called *Maipourie* by the native Indians; and, as it resembles a dwarf cow somewhat in shape, when viewed from a distance, the Dutch planters have given it the name of bosch, or bush-cow. In the year 1807, some thirty miles up the beautiful river Demerara, in north latitude about six degrees, there lived an elderly Dutch settler, whose name was Laing. He was one of those farming-looking gentlemen, who sauntered up and down his sylvan domain with a long pipe in his mouth, and with a straw hat on his head, broad enough to serve both himself and his wife, by way of an umbrella, in the blazing heat of an equatorial sun. Mynheer Laing had stubbed the surrounding trees to a certain extent, and this enabled him to have a little dairy and enough of land to feed his cattle, and to enclose a garden for the culinary wants of his household. In passing up and down the river in your Indian canoe his house appeared to great advantage. It stood near the top of a gently-sloping hill; whilst the high trees of magnificent foliage surrounded it on every side, saving that which faced the river, and there the green sward came down quite to the water's edge. On viewing it, you would have said that it was as lovely a place for a man of moderate desires as could be found on this terrestrial globe.

It happened that one of Mynheer's cows, which was accustomed to range in the adjoining forest, where sometimes a tapir had been seen to stray, produced a calf. It was misshapen from its birth, and it soon began to attract attention. Mynheer's wife would often invite her female friends who were located in the neighbourhood, and who were known to be exceedingly clever in the breeding line, to see the little stranger. To a matron, they all agreed that it was a compound —half bush-cow and half domestic cow—its mother, no doubt whatever, having got married clandestinely to a tapir, which she must have met in one of her excursions through the mazes of the forest. This sage opinion soon spread like wildfire. Everybody who went to see the prodigy confirmed its genealogy, and nothing was talked of, far and near, but the prodigy to be seen at the abode of Mynheer Laing. When I would occasionally remark that such a union of animals so opposite in their nature could not be, and that I could not compromise myself by patronising such a preposterous deformity, the men pitied my incredulity, and the matrons said that I had better attend to my own business. These last affirmed that the animal in question was half cow and half bush-cow in spite of all that I could say to the contrary. Determined to see with my own eyes this wonderful production, I went up the river Demerara with my friend Mr Edmonstone, to pay a visit to its owner. The Dutch gentleman received us with his usual courtesy, and after partaking of a cup of excellent coffee with him—not mixed with *chicory*, which, so far back as the days of Don Quixote, was in no great repute—we proceeded to the stable where the phenomenon was kept, Mynheer observing, as we went along, that such a curiosity had never been seen since his countryman had felled the first tree on the wooded banks of the beautiful river Demerara. On entering the place, I saw standing there an animal, certainly of most curious form and dimensions, but not a particle of tapir or bush-cow could I detect in it. It was a bull calf of the common breed of domestic cows, and was awfully misshapen. So ended the investigation, and in a few weeks afterwards the report of such a hybrid gradually died away, and nothing more was said about it.

The second anecdote fairly outdoes the first.

Some years ago, I formed an acquaintance with a most benevolent and mentally enterprising English gentleman in Rome.* He was, at that time fully bent on fitting out an expedition, from his own native land, to the interior of Africa, in order to Christianize the barbarians of those far distant parts, and to make good English farmers of them. Many an hour's conversation I had with him on his darling plan of cultivating Africa. But he could not gain me over. I placed before his eyes the diseases of the climate, the pestilential swamps, the torrents of tropical rain, the heat of the fiery sun, and the hostility of surrounding tribes, savage as the savagest wild beasts of the forest. To all this, he answered that he would try:—and afterwards he did try on his return to England. Having organised an expedition at fearful cost to the country, it proceeded to Africa: he himself staying at home. Woeful was its final issue. But to the point. One day, whilst our conversation turned upon the natural history of the country, he asked me, if I believed that pelicans feed their young ones with the blood from their own breasts? I answered, that it was a nursery story. Then, sir, said he, let me tell you that I do believe it. A person of excellent character, and who had travelled far in Africa, had assured him that it was a well-known fact. Nay, he himself, with his own eyes, had seen young pelicans feeding on their mother's blood. And how did she staunch the blood, said I, when the young had finished sucking?—or by what means did the mother get a fresh supply for future meals? The gentleman looked grave. The whole mystery, sir, said I (and which, in fact, is no mystery at all), is simply this: The old pelicans go to sea for fish, and having filled their large pouch with what they have caught, they return to the nest. Then standing bolt-upright, the young ones press up to them, and get their breakfast from the mother's mouth—the blood of the captured fishes running down upon the parent's breast:—and this is all the keen observer saw. 'Tis indeed a wonder—a strange wonder—how such a tale as this could ever be believed. Still, we see representations of it in pictures, drawn by men of science. But enough of infant pelicans sucking their mamma in the nursery. I consign them to the fostering care of my great grandmother.

In the meantime, I will proceed with careful eye to inspect the genealogical tree of the monkey family; and after having lopped off its diseased or useless branches, I will ingraft in their stead others which, I trust, will bear fruit of a better quality, and be more agreeable to the reader's palate, than the bastard fruit which they have hitherto been accustomed to eat.

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* Sir Fowell Buxton.—[Ed.]

Whatever books we open, which treat on the habits of the monkey, we are sure to find stories upon which no manner of reliance ought to be placed; and it is humiliating for the cause of natural history, to see how such absurd tales still continue to find their way into editions of the present times, where the schoolmaster is supposed to carry all before him.

An immortal engraver on wood* (and faultless, had he attended solely to his own profession), having never seen monkeys in their native regions, has taken his account of them from the pages of other writers. In the frontispiece to his book, he gives us an unfaithful portrait of the large orang-outang sitting on a bench, with a cane in its hand, and supporting its arm on it. Uncomfortable position for the captive brute! We might easily mistake it for a man, both in form and in position. He tells us that the "largest of the kind are extremely swift." Swift, forsooth! I should like to talk with any European traveller, or with any native of the regions in which orang-outangs are found, who will positively assert that they have ever detected one of those apes, either young or old, in flight, or in a journey, on the ground. I would prove the assertion to be a fabrication by the anatomy of the animal itself. Our author continues, that "they drive away the elephants who approach too near the place of their residence." What, in the name of bullying, I ask, has the orang-outang to do with the elephant in the way of residence? Wild animals, in boundless space, do not quarrel with others of a different species, except for food; and then, the strongest soon destroy the weakest, or make them retire elsewhere. Thus, we may easily conceive that a stiff buck goat might so far forget good breeding as to pounce upon a tender lamb, and seize the savoury plant upon which the lamb was feeding. Now the ordinary pursuits, and also the food and the territory of the ape and the elephant, are quite sufficient to prevent a collision. Wherefore, we may safely infer, that as there is no object to cause a misunderstanding between the orang-outang and the elephant, these two peaceful inhabitants of the torrid zone will never meet in hostile fury.

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* Bewick. The Duke of Northumberland had presented Mr Waterton with a splendid copy of the Birds and Beasts of Bewick.—[ED.]

Again,—as he mentions the "place of their residence," I would ask, who has ever seen it?—Pray, on what part of *terra firma* have apes been known to locate themselves permanently, or even for the lapse of a few days?—The badger has his secret cave, warm and comfortable;—the fox his earth, whither to retire in case of need;—not so the monkey, as I'll show hereafter. Of all known quadrupeds, monkeys are the least inclined to settle. In fact, they may be said to be eternally on the move; disporting up and down the trees, or roving on in quest of food; and when that becomes deficient,—deviating in all directions for a fresh supply. Let a man come up with a troop of monkeys in the trees above him, as I myself have often done, and I will give my ears if he find them in the same locality on the following day. They would have no attraction to those trees, saving the hope of nutriment, which would not last them long. Had these errant animals, nests, or recesses in the trees, wherein to rear their young, certainly, in this case, we should see them skulking near "their place of residence." But no such thing. I could never find a young monkey left to itself; neither could I learn from the Indians, that they themselves had ever seen one, except in company with the rest. When stationary, or when in motion, the baby monkey adheres closely to the mother's body: so closely, that it requires a keen and an accustomed eye to distinguish it. The mothers may be aptly styled a kind of moving cradle—their fur or coat of hair, serving as blankets for the little ones in earliest infancy. If you are in want of a tender monkey, a month old or so, to boil for broth, or to educate as a pet, your only chance of success is to shoot the poor mother, but not with a fowling-piece. Nine times out of ten, the wounded mother would stay in the clefts of the trees, where she would ultimately perish with her progeny. An arrow, poisoned with wourali, is your surest weapon. Take a good aim, and in a few minutes the monkey will be lying dead at your feet. The wourali poison totally destroys all tension in the muscles. Now, a gunshot wound, even although it be mortal, has not such an immediate effect. Knowing this to be the case, whenever a monkey was wanted, recourse was had to poisoned arrows. By this precaution, the ill-fated animal's existence was not prolonged under the painful anguish of a deadly wound. The wourali poison would act as a balmy soporific, and the victim would be dead at your feet in a very short space of time.

In treating of the "pigmy ape," our author remarks, that troops of them assemble together, and defend themselves from the attacks of wild beasts in the desert, by throwing a cloud of sand behind them, which blinks their pursuers, and facilitates their escape. Now, this act of throwing dust in the eyes of a pursuing enemy, is a most extraordinary feat on the part of the pigmy ape, and were it really the case, it would argue a faculty in the monkey tribe far surpassing that of instinct. But let me ask, in the first place, who ever saw monkeys in a sandy desert?—or, if in decided opposition to their ordinary habits, they had strayed out of bounds, pray what kind of pursuers were those which received the cloud of sand from the monkeys' hands? Were they wolves, or bears, or foxes, or jackals? If any of this motley group of hunters,—say, what were the hunters themselves doing in a sandy desert, where no food could be procured, either by the pursued or by the pursuers? I have spent days in the sandy deserts of Guiana—they are called dry savannas—but never did I see a monkey there. Had I observed one, my astonishment would have been beyond the power of words, and I should have been utterly at a loss to account for the apparition. In the second place, an assemblage of monkeys argues a tract of trees. Supposing, then, that there had actually been a tract of trees in the desert, these monkeys must have been deprived of their usual instinct, to descend and take up a handful of sand in order to throw it at their pursuers, and thus expose themselves to have their backs broken by the jaws of a famished jackal, or to be made mince-meat of, and then swallowed by a pack of ferocious wolves. Depend upon it, no bands of monkeys and of wild beasts have ever yet had a hostile meeting, or been engaged in hot pursuit of each other, or ever will have one to the end of time. In the third place, I positively affirm that the act of throwing things does not exist in any animal, except in man, whose reasoning faculties enable him to perform the feat. But more of this anon. The prerogative must not be conceded to the monkey family, however highly we may estimate its powers of mimicry.

One quotation more from our immortal engraver on wood, and then I will shut his valuable book, wishing sincerely, for the good of zoology, that he had confined himself solely to the engraving department of it, in lieu of consulting writers whose judgments seem never to have been sufficiently matured to enable them to distinguish truth from fiction. Hence, with the very best intentions, they are perpetually going astray, by too often mistaking for real flame the fallacious exhalations of "Will o' the Wisp," as they hover over the treacherous surface of a distant quagmire. He informs his readers, in the volume of quadrupeds, that "monkeys break off branches, throw them at the passengers, and frequently with so sure an aim as to annoy them not a little." This is said of the pata or red monkey, perhaps the most wary of all the family, and ever on the alert to escape when man approaches. But, granting for a moment that monkeys have the power to throw sticks, let me ask, how did the patas contrive to take a sure aim amongst the woven and intervening branches of a tropical forest? The question is easily answered. This monkey, by its natural shyness and fear of danger, has never had time nor opportunity to fling a stick with sure aim at the head of any traveller.

The traveller who first invented this idle story, of monkeys throwing branches at passengers, must have been a wag of the first order and of most inventive intellect. The art of throwing projectiles has not been given to the brute creation; man alone—man, a rational being—possesses the qualification. Monkeys know nothing at all of the combined act of moving an elevated arm backwards, and then, whilst bringing it forwards, to open the hand just at that particular time when the arm can impart motion to the thing which the hand had grasped. Thus man, at a distance from you, can aim a stone at your head, and break your skull. The monkey can do no such thing. It will certainly take up a stone or a stick; but that is all, as far as aggression is concerned. The stone or the stick, in lieu of flying off from the monkey's hand, would drop perpendicular to the ground, like Corporal Trim's hat, when the serious soldier was making reflections on death before the servants in Captain Shandy's brother's kitchen. "Are we not (dropping his hat upon the ground) gone in a moment?" Reader, inspect the Zoological Gardens, in Regent's Park, from morning till night—where there is always a charming show of monkeys—and I will stake my ears, that you never see one of them do that which we commonly call the act of throwing a stone at any intervening object.

I will now cross the channel, and peep into the books of foreign naturalists who have written on monkeys. I find in one of these authors that, "in relative qualities, therefore, the ape is farther removed from the human race than most other animals." Granted. He then continues, that "his temperament is also very different. Man can inhabit every climate. He lives and multiplies in the northern as well as in the southern regions of the earth. But the ape exists with difficulty in temperate countries, and can multiply only in those that are warm." I must make an observation or two upon this last quotation, in which our great continental naturalist does not appear to have paid sufficient attention to his subject. Methinks he ought to have reflected that man and monkey are both made of flesh and blood, but that man has been endowed with reason by his Maker, whilst the monkey has not been so fortunate. This makes all the difference with regard to "temperament." Reason teaches man to protect himself against the rigours of a northern climate by fire and blanket. Did the monkey possess the blessing of reason, so that he could buy, or manufacture for himself, a comfortable roquelaure in case of cold, and roast a leg of mutton for his dinner, and mix a glass of hot toddy before he went to bed—he, too, as well as rational man, would be safe, and would enjoy himself in the deepest recesses of the frozen zone. Now, deprive man of his roquelaure, his mutton, and his toddy, and then place him alongside of the monkey, to pass a week in Nova Zembla, whilst the sun is at Capricorn, be assured that both man and ape would perish side by side—proof sufficient that the natural "temperament" is much the same in both animals; but that reason nourishes it in the one, whilst the want of reason destroys it in the other. Instinct alone is not sufficient to procure a sufficient supply of artificial food for the monkey, wherefore this animal must depend upon the bounty of nature for its daily nutriment; and this nutriment can only be had, the year throughout, in the tropics and in the forests bordering on them. This I will show in the sequel.

Proceeding onwards with our author's history of the monkey family, I find his account of the orang-outang anything but true and satisfactory. It seems to have been made up partly from what has been observed of the animal when in a state of captivity, and partly from the reports of travellers. Such reports, nine times out of ten, contain a strong infusion of the marvellous; and they ought to be received with caution, and be sifted most diligently, by those naturalists whose delicate state of health or domestic arrangements prevent them from visiting the countries where monkeys abound. He quotes, but seems to condemn at the same time, a great northern master in zoology, who, upon the reports of certain voyagers, tells us that the "orang-outang is not deprived of this faculty (speech), and that it expresses itself by a kind of hissing words." But our author himself doubts that there is such an animal of "hissing words;" nay, he even denies its existence, and he conjectures that it might possibly have been a white negro, or what is usually styled a chacrelas. This animal could not possibly have been a white negro, because a white negro is a human being to all intents and purposes, and he has no need to express himself by a kind of "hissing words."

By the way, a white negro is a rare phenomenon: still it differs from its sable fellow Africans in nothing but in colour. Once, and only once, during my life, I have had an opportunity of examining minutely an entirely white negro. In the year 1812 there lived in the town of Stabroek, the capital of Demerara, a man of this complexion. He was a robust young fellow—by no means what they called an Albino, as his eyes were just of the same colour as those of his tribe. Having been shown the house where he lived, I knocked at the door and begged admittance. On addressing him, I said that, having heard much of his fair skin, I had come that morning to make acquaintance with him. He went by the name of Bochra Jem, or White Jemmy, was a tailor by trade, and was the property of the good woman who had opened me the door. He answered without hesitation every question which I put to him, and he willingly allowed me to examine him for any length of time. His whole frame was delicately white wherever his clothing had defended it from the scorching rays of the sun. In fact, I found his skin in all respects the same as my own, saving that, where the sun had given mine the appearance of mahogany, his was blotched with broad freckles of a lighter tint. In all other respects, he was in reality a negro from head to foot; for his hair was curly, and his nose depressed, his lips protuberant, and his ears as small as those of a genuine coal-black son of Africa. He stood apparently about five feet nine inches in height, with a finely-expanded chest, and with a back as straight as an arrow. But he was deficient in the calves of his legs, which latter were rather inclined to be what we should term bandy; whilst you could not help remarking the protrusion of his heels, so noted in the negro. Both his father and his mother were healthy, jet-black negroes; so that Bochra Jem could not by any chance be a mulatto, or of any of those castes which are removed from the breed of half black and half white, constituting a true mulatto. I should say that he was twenty years old, or thereabouts, but I did not ask his age. Probably he was the only white negro ever seen in Demerara. On taking leave of him, I put a dollar into his hand for the trouble I had caused him. His dark eye brightened up, whilst he smiled contentedly through a set of white teeth, and, as I went out of the room, he said, "God bless you, massa." A few years after this, on my return from England to the wilds of Guiana, I stopped for a couple of days in Stabroek, and went to the house where Jem resided. But death had claimed him. He had died, they told me, "somewhat suddenly, about nine months ago." His owner remarked, that poor Jemmy's strange appearance was much against his mixing with his brethren, who at times would turn him into ridicule. Had this good lady read the Latin classics, I would have observed to her that, whilst "*alba ligustra cadunt, vaccinia nigra leguntur.*"

I have not yet quite done with my remarks on what travellers say of the orang-outang. I marvel that a naturalist, so discerning and so clever as he whose history of this ape I have quoted, should have selected his materials from the reports of some and the writings of others, which deserve neither credence nor attention. In fact, their accounts of the orang-outang are manifest absurdities.

Had I but lent a willing ear to tales of some whose minds were full of monsters in the wilderness, my readers of the "Wanderings" would indeed have had reason to condemn my credulity. I have heard even white men express their firm belief, that animals exist in the wilds of Guiana, surpassing those which are spoken of in Ovid's Metamorphoses.

But travellers in Africa seem to take the lead in zoological romance. One of these gentlemen of fabricating talent, or of most extraordinary gullet, positively asserts, that the apes called pongos, "kill many negroes that travel in the woods." "Many times," continues he, "they fall upon the elephants, which come to feed where they are, and so beat them with their clubbed fists, and pieces of wood, that they will run roaring away from them." Lamentable blotches on the page of African zoology! Our author further adds, on the testimony of the same recounter of pongos belabouring elephants, that "a pongo ape carried off a young negro, who lived a whole year in the society of these animals." Disagreeable society, no doubt, for the poor little human captive! But pray, let me ask, who cooked its victuals? Apes in the woods live upon raw vegetable substance, by no means suited to the taste of, or calculated to nourish one of, our own species. Did it get its daily food at the breast of a pongo wet nurse? Whilst this poor hapless infant sojourned amongst the apes, perhaps, it even had not once the luxury of regaling itself with a handful of unroasted coffee, or with a scanty slice of raw pork—luxuries occasionally abundant in our late eastern expedition.

Again, our author quotes other travellers, who assure us that "the orang-outangs carry off girls of eight and ten years of age, to the tops of trees, and that it is extremely difficult to rescue them." Most difficult, no doubt; can any person, for one moment, doubt the difficulty of such a dangerous and of such an arduous task? I don't know how I myself, with a young lady in my arms, would be able to set about it, although I am just now pretty nimble in getting up a tree. Poor hapless damsels! tedious and disgusting, indeed, must have been your awful journey upwards, whilst in the arms of a villainous ape! Say, what kind of a resting-place did ye find "on the tops of the trees?" Did the knave of a pongo ape leave you in that perilous position aloft, until some pitying and daring brother or cousin of yours should arrive to the rescue? Did your widely-spreading petticoats suffer nothing in the scuffle?

Furthermore, another writer maintains that, in his voyage to Angola in 1738, he knew a negress at Loango who remained three years with these animals!! Now, a sojourn of three years, argues that there must have been, somewhere or other, a permanent settlement of the pongos. Hoax of unparalleled impudence, in him who fabricated this most improbable story!

The same traveller, in speaking of certain orang-outangs which he had purchased from a negro, does not content himself with informing us that these orang-outangs had been instructed by the negro, but actually is barefaced enough to state that they had performed *spontaneously* most of the feats recited. "These animals," he remarks, "have the instinct of sitting at table like men. They eat every kind of food without distinction. They use a knife, a fork, or a spoon, to cut or lay hold of what is put on the plate. They drink wine and other liquors. We carry them aboard. At table, when they wanted anything, they signified as much to the cabin-boy; and when the boy refused to give them what they demanded, they sometimes became enraged, seized him by the arm, bit, and threw him down." Now, mind, astonished reader, most of what has just been stated was the effect of *instinct*, not of *instruction*.

A man weak enough to put any faith in such phenomena, and in such palpable exaggerations of monkey achievements in foreign parts, may easily be persuaded that our herons here at home do actually thrust their legs through holes at the bottom of the nests during the period of incubation, or that the flamingo hatches her eggs on a truncated kind of pyramid nest, with her legs supporting the body on the outside, somewhat in imitation of a little boy astride a barrel. I have seen somewhere in print, a representation of this last-mentioned absurdity, and more than once have had to argue the point with certain lovers of the marvellous in natural history. They maintained that the legs of these birds were too long to admit of their being brought up under the body during incubation; and my arguers only gave in, by my showing them that a corresponding length of thigh in the heron and flamingo allowed these birds to sit upon their eggs, precisely as tomtits or house-sparrows would do in propagating their breed.

One traveller writes about apes feeding upon "crabs, oysters, and other shell fishes." Did these fishes frequent the trees in the forest?

"The apes along the banks of the river Gambia," says another, "are larger and more mischievous than in any other part of Africa. The negroes dread them, and cannot travel alone in the country without running the hazard of being attacked by these animals, who often present them with a stick to fight." Brave and bountiful apes of Gambia!—your magnanimity in offering a foe your own tough club to fight you, puts me in mind of what really did happen in the island of St Domingo, during the French revolutionary war. The English having made an assault, a Spanish officer, starting from his bed in wild distraction, ran unarmed to the walls. There he met one of our Jack tars, who happened to have a cutlass in either hand. Jack, seeing by the light of the full moon that the officer had nothing wherewith to defend himself, immediately offered him a cutlass. The Spaniard, subdued by such a noble, and by such an unexpected, act of generosity on the part of the British tar, dropped on his knees, and refused to take it. I question whether any ape in all Gambia could have produced a scene like this. To be serious,—an act like this argues reason and reflection, both of which have been denied to the brute creation, and only given by our Maker to man,—"His own image and likeness."

But let me proceed. "We might dispense," another traveller remarks, "with seeing a number of apes at Macacar, because a rencounter with them is often fatal. It is always necessary to be well armed to defend ourselves against their attacks. . . . They have no tails, and walk always erect on their two hind feet like men."

Our author styles these voyagers, who have given us such questionable narratives, "the least credulous;" and he adds, that "they deserve most credit." Although I am not prone to take offence (*non ego paucis offendar maculis*) at occasional intervening stains on the pages of natural history, still I cannot refrain here from entering a protest against such palpable impossibilities as those which I have just quoted. Had they been current in Don Quixote's time, they would certainly have been burned in the court-yard of that adventurer's house by the curate and the barber, when these sagacious inspectors committed to the devouring flames sundry romances which deserved no better fate.

So much for the supposed reasoning qualities—the bravery, the knavery, the trickery, and generosity of apes, which are found in the Old World. Should these narratives of former voyages be true, and should modern travellers add a few more facts to those already recorded, I do not see why we should not at once acknowledge these talented wild men of the woods as members of our own family, and pronounce them to be human beings. It would be an interesting sight to see them going hand in hand with us through the meandering walks of civilised life. How delighted I should be to observe our Prime Minister walking soberly along the streets of London towards the House of Commons, on important business, in company with an old strapping ape from the far distant wilds of Sumatra! "*Nil mortalibus arduum est.*"

If we cross the Atlantic Ocean to the New World, we shall find no apes there, as I have already stated. But we shall fall in with a monkey or two, if we can believe the tales of travellers, still more highly gifted by nature, and even surpassing in useful acquirements every ape as yet discovered in the extensive tropical regions of the old continent.

A traveller in Southern America relates, that every morning and evening the monkeys, named ouarines, assemble in the woods; that one of them takes an elevated station, and gives a signal with his hand for the others to sit around and listen to him; that, when he perceives them to be all seated, he begins a discourse in a tone so loud and rapid as to be heard at a great distance, and a person would be led to think that the whole were crying together; that all the rest, however, keep the most profound silence; that, when he stops he gives a signal, which they obey in a moment; that the first resumes his discourse or song; and that, after hearing him attentively for a considerable time, the assembly breaks up. This precious morsel of monkey-preaching seems to have been too bulky for our author to swallow; so he remarks that, "perhaps these facts may be exaggerated and seasoned a little with the marvellous." Still the explorer himself assures us that he has often witnessed these facts.

Now, it has so happened that I have studied attentively the habits of the monkeys called ouarines. The story of their preaching in concert is an idle fabrication, and it has probably given rise to these monkeys being termed howlers or preachers. They commonly go by the name of red monkeys in Demerara. The preaching part of their history is as follows. I take it from my "Wanderings":—"Nothing can sound more dreadful than the nocturnal howlings of this red monkey. Whilst lying in your hammock amid these gloomy and immeasurable wilds, you hear him howling at intervals from eleven o'clock at night till daybreak. You would suppose that half the wild beasts of the forest were collecting for the work of carnage. Now, it is the tremendous roar of the jaguar, as he springs upon his prey; now, it changes to his terrible and deep-toned growlings, as he is pressed on all sides by superior force; and now, you hear his last dying groan beneath a mortal wound." Some naturalists have supposed that these awful sounds, which you would fancy are those of enraged and dying wild beasts, proceed from a number of red monkeys howling in concert. One of them alone is capable of producing all these sounds; and the anatomists, on an inspection of his trachea, will be fully satisfied that this is the case. When you look at him, as he is sitting on the branch of a tree, you will see a lump in his throat, the size of a hen's egg. In dark and cloudy weather, and just before a shower of rain, this monkey will often howl in the day-time; and if you advance cautiously, and get under the high and tufted trees where he is sitting, you may have a capital opportunity of witnessing his wonderful powers of producing these dreadful and discordant sounds. Thus, one single solitary monkey, in lieu of having "others to sit down and listen to him," according to the report of travellers, has not even one attendant. Once I was fortunate enough to smuggle myself under the very tree on the higher branches of which was perched a full-grown red monkey. I saw his huge mouth wide open; I saw the protuberance on his inflated throat; and I listened with extreme astonishment to sounds which might have had their origin in the infernal regions.

Another traveller, who also is quoted by our author, says that these ouarine monkeys threw dried branches of the trees at him, and so far forgot themselves, that they "voided their excrements in their hands, and then threw them at his head." It is difficult to comprehend how this expert traveller managed to approach so near to these wary animals, with no intervening object betwixt himself and them, so that they could have a distinct view of him, and take their aim accordingly.

Still, by far the most extraordinary feat of the western monkeys remains yet to be told. But I can fancy, courteous reader, that thy patience is nearly exhausted. One dose more—though it be much stronger than any I have as yet offered to thy gullet. "*Majus, parabo, majus infundam tibi fastidienti poculum.*" We are gravely told, that certain transatlantic monkeys are adepts in the healing art. "What is singular, as soon as one is wounded, the rest collect about him and put their fingers into the wound, as if they meant to sound it; and when much blood is discharged, some of them keep the wound shut, whilst others make a mash of leaves, and dexterously stop up the aperture. This operation," continues the traveller, "I have often observed with admiration." By the shade of Hippocrates, these monkey-surgeons puzzle me outright. Nevertheless, our narrator *saw* the monkeys perform the operation; and it were discourteous in me to doubt his word. Wherefore, I will content myself by simply remarking, that I believe that he believed that which in reality cannot be believed.

I have now done with quotations, the contents of which neither increase my estimation of monkey ingenuity, nor tend to give me a favourable opinion of the discernment of those authors from whose works I have extracted them. They may possibly serve to put the over-credulous lover of natural history on his guard. 'Tis said that the schoolmaster is now abroad. I am glad of it. He is much wanted in the province of natural history, both in the Old and in the New World.

Ere I proceed in my investigation of the monkey family as it roves through its own native wilds, I will stop a moment or two here, and cast my eye on certain individuals, whose destiny has placed them under the imperative power of civilised man. But let it not be imagined that my description of them is to be considered as in any way trenching on their original habits; or conceding to them certain faculties which nature herself never intended that they should possess. What they have learned in captivity has been adventitious altogether, and seems only to be of real use to us on one particular point, namely, it gives us an opportunity of examining the disposition of the captive. Thus, by having removed the tiger from his jungle, we perceive, that his temper, although flexible under the hand of tuition, cannot entirely be depended upon; for sooner or later, when least suspected, he will spring upon his keeper, and punish him with death. On the contrary, amongst the numerous tribes of monkeys, we find one which is docile in the extreme, and will never be outrageous, if only treated with kindness and generosity; but, like ourselves, it is capable of recollecting injuries or insults, and it will sometimes resent them, should a favourable opportunity occur. This species of monkey is the ape of the Old World. Whether it be the smaller one, named chimpanzee, or the larger, commonly called orang-outang, *alias*, the wild man of the woods, it repays us, in some degree, for the instructions which we impart to it. Gentle in the extreme, kind to the hand that feeds it, and imitative of its instructor, it would perform feats that would almost seem to place it, in occasional instances, with man himself,—although, at the same time, it cannot help letting out the secret, that, in intellect, it is as far from the noble lord of created beings, as can possibly be imagined; and that, in fact, it can have no claim to any rank above that of the raven, the dog, and the elephant. With this then in view, that apes are mimics of no ordinary character, but nothing more, I will proceed with my original attempt to investigate the real habits of the monkey family at large.

It has been my good fortune, here in England, to have made acquaintance with three different species of apes from their own warm regions in the tropics, two of which are now in high preservation at Walton Hall. The first is a female of the smaller kind with a black fur, and called the chimpanzee. It was exhibited at Scarborough, in the well-known collection of Mr George Wombwell, nephew to the late Mr Wombwell, who was so celebrated for his management of wild beasts from all parts of the world. I soon perceived that its lungs were injured, and that its life was coming fast to a close. When Mr G. Wombwell had exhibited his splendid menagerie for a sufficient length of time at Scarborough, he conducted it to Wakefield, whither I had written the day before to my friends who are fond of natural history, and urged them to lose no time in paying a visit to the little chimpanzee, as its health was visibly on the decline. I left Scarborough soon after, and on the very day on which I went to Wakefield, the poor little African stranger was lying dead in the apartment which it had occupied. Mr Wombwell begged that I would accept it. I did so; but, as he had already sent word to Huddersfield, that his chimpanzee would be shown there, so soon as he had made a sufficient sojourn in Wakefield, I suggested the idea that, although his poor ape was dead, he would do well to take it with him, in order that the public of Huddersfield might be gratified in having an opportunity to inspect so singular an animal, so rarely seen in this country. I added, that it might be forwarded to me when he had no more use for it, as the frosty state of the weather was all in its favour.

The man whom he commissioned to bring it to me had a cousin in Leeds, a fiddler and a soldier by profession. So in lieu of coming straight to Walton Hall, the fellow took off to Leeds, quite out of the direct line, in order to enjoy the company of his cousin the musician, and to hear him talk of battles lost, and others won. They both got drunk the first evening, as the man who had taken charge of the dead ape afterwards confessed to me, when I questioned him concerning his non-appearance at the time appointed. But my disappointment did not end there; for, instead of pursuing his journey on the morrow, this unthinking porter passed another day of mirth and mental excitement with his loving relative, and then another day after that. So, alas, the chimpanzee only reached me late on Sunday evening, notwithstanding that I had expected it on the Wednesday. This provoking loss of time cost me full five hours of nocturnal labour with the dissecting knife. After seven weeks of application I succeeded in restoring its form and features. Hollow to the very nails, it now sits upon a cocoa-nut (not, the way, its correct position), which I brought with me from Guiana in the year 1817. Unless accident destroy this ape (as it has been totally immersed in a solution of corrosive sublimate and alcohol,—see the "Wanderings"), it will remain, for ages yet to come, free from mould and from the depredations of the moth; and without any wires, or any internal support whatever, it will retain the form which I have given to it, and the exact position in which it has been placed at Walton Hall, where it has many attractions for scientific visitors. Of all apes as yet discovered, this little chimpanzee appears to approach the nearest to man in form and feature. In fact, it might compete with some of the negro family for the prize of beauty. But still it cannot speak! No, not one single solitary word can it utter in accordance with those produced by the human voice. In this particular, several of the birds may take precedence of it. The raven, starling, jackdaw, jay, and magpie can learn to say, "How do you do?"—"I can't get out; no, I can't get out," said the poor captive starling. Quadrupeds seem not to have this privilege. Balaam's ass, to be sure, once spoke a few words, but those were miraculous; and again, Leibnitz mentions a dog that could articulate thirty words; still, as the Spanish proverb informs us, one swallow does not make a summer—"*una golondrina no hace verano.*" In sight, scent, and agility amongst the trees, we may allow the ape to claim superiority over man. In other qualities, it is inferior to him. After man, it may possibly hold the first place in the graduated scale of animated nature; and this, methinks, is all that ought to be granted to any individual of the monkey family.

The second living ape which has come under my inspection, is the great red orang-outang, from the island of Borneo. I went up to London expressly to see it at the Zoological Gardens, which are under the superintendence of Mr Mitchell, a gentleman so well known for his talents in office, and for his courtesy to visitors. Most amply, indeed, was I repaid for the trouble I had taken. The orang-outang was of wrinkled and of melancholy aspect, entirely devoid of any feature bordering on ferocity. As I gazed through the bars of his clean and spacious apartment, I instantly called to my recollection Sterne's affecting description of his captive, who was confined for life, and was sitting on the ground, "upon a little straw, and was lifting up a hopeless eye to the door!" The more I inspected this shaggy prisoner from Borneo, the more I felt convinced, that, in its own nature, it could lay no manner of claim to the most remote alliance with the human race, saving in a faint appearance of form, and in nothing more. The winding up of the interview which I had with it, confirmed me firmly in the opinion which I had long entertained of his entire family. Having observed his mild demeanour, and his placid countenance, I felt satisfied that if ever the animal had been subject to paroxysms of anger when free in its native woods, those paroxysms had been effectually subdued since it had become a captive under the dominion of civilised man. Acting under this impression, I asked permission to enter the apartment in which it was confined, and permission was immediately granted by a keeper in attendance. As I approached the orang-outang, he met me halfway, and we soon entered into an examination of each other's persons. Nothing struck me more forcibly than the uncommon softness of the inside of his hands. Those of a delicate lady could not have shewn a finer texture. He took hold of my wrist, and fingered the blue veins therein contained, whilst I myself was lost in admiration at the protuberance of his enormous mouth. He most obligingly let me open it, and thus I had the best opportunity of examining his two fine rows of teeth. We then placed our hands around each other's necks, and we kept there awhile, as though we had really been excited by an impulse of fraternal affection. It were loss of time in me, were I to pen down an account of the many gambols which took place betwixt us; and I might draw too much upon the the reader's patience. Suffice it then to say, that the surrounding spectators seemed wonderfully amused at the solemn farce before them. Whilst it was going on, I could not help remarking that the sunken eye of the orang-outang, every now and then, was fixed on something outside of the apartment. I remarked this to the keeper who was standing in the crowd at a short distance. He pointed to a young stripling of a coxcomb. "That dandy," said he, "has been teasing the orang-outang a little while ago; and I would not answer for the consequence could the animal have an opportunity of springing at him." This great ape from Borneo exhibited a kind and gentle demeanour, and he appeared pleased with my familiarity. Having fully satisfied myself how completely the natural propensities of a wild animal from the forest may be mollified, and ultimately subdued by art, and by gentleness on the part of rational man, I took my leave of this interesting prisoner, scraping and bowing with affected gravity as I retired from his apartment.

Up to this time, our ape had shown a suavity of manners and a continued decorum truly astonishing in any individual of his family; I say of his family—because, in days now long gone by, when our intercourse with Africa was much more frequent than it is at present, I have known apes, baboons, and monkeys brought over from Guinea to Guiana, notorious for their forbidding and outrageous habits. This orang-outang, however, by his affability and correctness, appeared to make amends for the sins of his brethren. "Nature seemed to have done with her resentments in him;" and I bade him farewell, impressed with the notion that he was a perfect model of perfection, which might be imitated with advantage even by some of our own species. But, alas, I was most egregiously deceived in the good opinion which I had entertained of him; for scarcely had I retired half a dozen paces from the late scene of action, when an affair occurred which beggars all description. In truth, I cannot describe it; I don't know how to describe it—my pen refuses to describe it. I can only give an outline, and leave the rest to be imagined. This interesting son of Borneo advanced with slow and solemn gravity to the bars of his prison, and took up a position exactly in front of the assembled spectators. The ground upon which he stood was dry; but immediately it became a pool of water, by no means from a pure source. Ladies blushed and hid their faces, whilst gentlemen laughed outright. I was scandalised beyond measure, at this manifest want of good breeding on the part of this shaggy gentleman from the forests of Borneo. He confirmed for ever my early opinion, that, although apes naturally possess uncommon powers of mimicry—and that these powers can be improved to a surprising degree, under the tutelary hand of man—nevertheless, neither time, nor teaching, nor treatment, can ever raise apes even to the shadow of an equality with the intellect of rational man. All monkeys are infinitely below us—aye, infinitely indeed. Rude, shameless, and uncalculating beasts they are, and beasts they will remain to the very end of time, unless some unforeseen catastrophe, ordered by an all-wise Providence, should root out their whole race from the face of the earth—as we already imagine has been done with those antediluvian animals, the fossil remains of which have been so scientifically lectured upon, and so cleverly pourtrayed by the master-hand of Mr Waterhouse Hawkins.

Would that he had continued his representations of them, in the beautiful gardens of the Crystal Palace. But it is said that we are to have no more. Possibly some random blow in the dark, from the hand of modern Vandalism, may have smitten the rising plant, and scathed its opening bud. To me, an inspection of these antediluvian inhabitants of earth and sea is always a treat of the first order, and it is more agreeable to my intellectual palate than any other scientific food contained in the vast enclosure of art and science. My last visit to the far-famed temple at Sydenham was wholly spent amongst them.

But let me return to my monkey family. I trust that my readers are, by this time, pretty well convinced that the wild elephants of the forest have never had any particular reason to fear a bastinado from the clubs of apes, nor young black ladies to be under the apprehension of abduction by them up to the tops of the trees.

A third ape which has come under my immediate inspection is a young brown chimpanzee, in the Royal Menagerie of Mrs Wombwell. It was captured on the bank of the river Congo, in Africa. Whilst I was at Scarborough during the autumn of 1855, this ape made its appearance there; and before I left this celebrated watering-place, I wrote the following notice of it in the *Scarborough Gazette:*—"Africa sends us, from time to time, many of her choice productions, some of which are astonishing in their propensities, others of unequalled beauty, and others again of a structure which may give ample scope to the most speculative mind of man. Amongst these is the chimpanzee, upon which I am about to make a few remarks. Apes hitherto introduced into England have walked on the ground, apparently with comparative ease to themselves, so far as the bearings or irregularities of the ground would permit. But this chimpanzee is a decided exception. He who contemplates it when in motion on the ground, will at once perceive that the knuckle of the fingers alone comes in contact with the floor. This position must obviously give it pain. Let me here remark, that it is not the natural position of the animal, but that captivity has forced it into an attitude so unsuited to it. If we wish to contemplate this gentle ape roving in uncontrolled freedom, we must go in imagination to the far-spreading forests of Africa. There, mounted aloft on the trees, and making use of what are usually called its fore feet by way of hands (and which, in fact, are hands), it will pass from branch to branch with wonderful agility; and when its hour of frolic has gone by, the chimpanzee will rest on a branch, bolt-upright, no part of its body coming in contact with the tree except the soles of its hind feet, usually so called—they being most admirably constructed to support it in this attitude. Thus placed, its abdomen, of enormous dimensions considering the diminutive stature of the animal, will be at rest, whilst the arms are folded on the breast, or moved in playful gambols, or occupied in scratching the body, or in conveying food to the mouth. Although the room in which this ape was shown seemed small and very unaccommodating to a climbing animal, still our young chimpanzee managed to thread its way up and down the surrounding furniture; and on its reaching me, it climbed up to my neck, where it found a comfortable resting-place. When I had approached sufficiently near to the window, so that the chimpanzee could profit by the movement, it would lay hold of the projecting parts, and then pass onwards, looking for a ledge or shelf to help it in its transit. But when we placed it on the floor again it seemed distressed; the countenance underwent a change; and we could not doubt of its discontentment. Miss Blight, who is governess to this wild little woman of the woods, has given her the name of Jenny, and has observed that her pet is very fond of celery, a piece of which Miss Blight, in our presence, held out to her from the opposite side of the room, first having cleared the floor for Jenny to pass over. Bending forwards, in the attitude of an old woman who uses two sticks in order to support her tottering frame, Jenny moved slowly, and to all appearance painfully, across the floor, with her hands clenched. On seizing the sprig of celery, she took a sitting position with remarkable composure, and her hands being now no longer in restraint, nor in an artificial posture on the floor, she made use of them just as we ourselves would use our hands and arms. Through the kindness of Mrs Wombwell, and the courtesy of Miss Blight, I was enabled to pay four long visits to this harmless and amusing young creature, lately kidnapped in the sunny regions of Africa. When I looked at it, whilst it stayed on the floor, I was perfectly satisfied, in my own mind, that it had never been formed by nature to walk on the soles of its feet, or *hands*, properly so called. In its own native regions, if we may judge by the peculiar formation of its limbs, the whole of its life must be passed amid the ever verdant trees of the forest. Jenny has no appearance whatever of a tail, for she is a veritable ape. Her skin is as black as a sloe in the edge, whilst her fur appears curly and brown. Her eyes are beautiful, but there is no white in them; and her ears are as small, in proportion, as those of a negress. Whilst apes in general, saving one, have little more than two apertures by way of nose, Jenny has a large protuberance there. It is flattened; and one might suppose that some officious midwife had pressed it down with her finger and thumb, at the hour of Jenny's birth. When kindly treated Jenny is all gentleness; still I fancied that I could perceive at intervals a slight tinge of mischief in her temper, for there was a pretty little dog in the same room with her, and whenever she could get hold of it, she would fix her teeth in it until it yelped aloud. I happened to be amongst the crowd of spectators outside of Jenny's little apartment (for she was not exhibited with the other wild beasts) when she made her final appearance before the liberal inhabitants of Scarborough. Having mounted the steps which led up to the room, in order that I might take my leave of her, Jenny put her arms round my neck; she 'looked wistfully at me,' and then we both exchanged soft kisses, to the evident surprise and amusement of all the lookers-on. 'Farewell, poor little prisoner!' said I; 'I fear that this cold and gloomy atmosphere of ours will tend to shorten thy days.' Jenny shook her head, seemingly to say, there is nothing here to suit me. The little room is far too hot, the clothes they force me to wear are insupportable, whilst the food which they give me is not like that upon which I used to feed when I was healthy and free in my own native woods. With this we parted—probably for ever. Should little Jenny cease to live, and should her remains reach Walton Hall, I assured Miss Blight that I would spare no pains to make her cherished favourite appear, for ages yet to come, as though the cruel hand of death had never laid it low." The reader will perhaps be grieved to learn, that poor Jenny's death was nearer than I had anticipated. She journeyed on, from place to place, in Mrs Wombwell's fine menagerie of wild animals, till they reached the town of

Warrington, in Lancashire. There, without any previous symptoms of decay, Jenny fell sick and breathed her last. Miss Blight wrapped her up in linen by way of winding-sheet, put her in a little trunk, and kindly forwarded her to Walton Hall, at the close of February, in the year 1856.

Here I will make a pause in my comments on the monkey tribe, whether the individuals of it be captives on the circumscribed domain of man, or whether they be roving aloft in the never-ending forests of the torrid zone. In the interval I will take a transient glance at other sections of animated nature. And this will be a preparatory step, as it were, to my fixing every member of the monkey family in that well-defined locality, which their form, their habits, and their appetites, plainly indicate that they should occupy. Food, security, and propagation of the species, form the three predominant propensities in the brute creation. There is not a known animal which does not occupy a situation exactly suited to its natural habits. But in the revolution, or the unfavourableness of seasons, should that situation deny to the individual which frequents it a proper supply of support, and a sufficient command of safety, then it goes away in quest of another more favourable to its wants. For example, millions of wild fowl migrate from the northern to the more southern regions of our hemisphere, when "winter comes to rule the varied year, sullen and sad." Their food has failed. Again, our magpies, rooks, jays, ringdoves, and pheasants never fail in autumn to frequent the oak trees in quest of acorns; but when these have disappeared, then instinct directs the same birds to labour elsewhere on the ground for their daily food, and they are seen no more on the oak trees in quest of acorns, until returning autumn furnishes a fresh supply. The feet of these birds enable them to perch on the branches, and their wings to transport themselves to and fro, as occasion may require. Although our own squirrel lives ever in the trees, all its four feet are perfectly formed, and quite adapted to support it on the ground; so that, when the wintry winds have deprived the trees of their wonted foliage, and also of the fruit which they bear, this active little fellow, enjoying no longer either shelter or support from them, betakes himself to the ground, over which he can bound to any distance, until he finds wherewith to satisfy his wants, amongst trees which retain their verdure the year throughout. Thus we see that Eternal Wisdom has placed its creatures in situations adapted to their nature; and if anything should prove deficient, we may be quite sure that the deficiency has been caused by the arrangements of man, or by the change of seasons, or by some accidental occurrences which occasionally take place.

I may add that, notwithstanding what some naturalists have written to the contrary, every portion of an animal's body is adapted to its journey through life, be that life of very short duration, as in some insects, or be it prolonged to a great extent;—witness our raven, whose life is said to exceed a hundred years. What could the ant-bear do without its tremendous claws and cylinder-shaped snout, so tough as to enable it to perforate huge nests of ants, which, in certain districts of Southern America, appear more like the roofs of Chinese temples than the work and habitations of insignificant little insects? Still I have heard the remark, that the long visage of this most singular quadruped is out of proportion and unsightly—whereas, I consider it to be quite in unison with the rest of the body, and admirably adapted to the support of life.

Look, again, at the vampire! Place it on the ground, and immediately its extraordinary formation appears to be nearly useless to it. A hook, in lieu of hands and nails, enables it to attach itself to the tree in perfect ease and safety; and by other hooks, which emanate from where the feet obtain in other animals, it hangs, body downwards, whilst it takes its rest;—though, singular to say, the head itself is always turned upwards on its reversed chest. A truly astonishing position, indeed!—never noticed, I suspect, in any tribe of the larger animals, saving that of the bat. The air is the only region of exercise for this singular family; and when it is at rest, it is found in the hollow of a tree, or in the hole of a wall, or in the thatch of a hut or cottage. It must by no means come in contact with the ground—it would perish there. A bat on the ground would be quite as badly off as a fish out of the water, or as some unfortunate man in chancery.

The swift, too, amongst the birds, has nothing whatever to do with the ground, on account of the formation of its feet and legs. As all its fore toes point forwards, it would be very difficult, nay, almost impossible, for this bird to maintain a firm hold on the branch of a tree. Pray, who has ever seen a swift sitting or standing upon a tree? Such a sight, indeed, would be a phenomenon of no ordinary kind, even in this our own age of stupendous marvels. On wing, it spends the live-long day;—on wing, it captures food;—and on wing it seizes feathers floating in the air, and takes them to its nest, for the purpose of incubation; and when night sets in it retires to rest in the holes of towers, and under the eaves of houses, but never on the branches of the trees.

In addition to the remarks which I formerly made in the "Wanderings" on the habits of the sloth, I could wish to introduce a few more here, concerning this solitary inhabitant of the tropical forests; because the sloth never comes to the ground, except by pure accident, and its habits will serve to corroborate the remarks which I am about to make on the nature and formation of monkeys.

These remarks will not be long.

We often complain of libels by man against man in civilised life; but, if ever a poor creature's character was torn in pieces by inconsiderate and ignorant assailants, certainly the sloth has great cause to vent its complaints of ill-treatment. Anatomists in Europe, and travellers abroad, when writing on the formation and on the habits of the sloth, seemed only to have added blunder to blunder; as though they had been wandering in the dark, without a ray of light to show them the path which they ought to have pursued. A bare inspection of the limbs of the sloth, ought to have enabled inspectors to assert positively that this animal was never modelled by the hand of our all-wise Creator to walk upon the ground. Notwithstanding this, one author remarks that, "from a defect in the structure of the sloths, the misery of these animals is not more conspicuous than their slowness." Again, "To regard these bungled sketches as beings equally perfect with others—to call in the aid of final causes to account for such disproportioned productions—and to make nature as brilliant in these as in her most beautiful animals, is to view her through a narrow tube, and to substitute our own fancies for her intentions." And again, "In fine, when the pressure of hunger becomes superior to the dread of danger or death, being unable to descend," (why so?) "they allow themselves to tumble down, like an inanimate mass—for their stiff and inactive limbs have not time to extend themselves in order to break the fall." Had the author of these passages just quoted been with me in the forests of Guiana, his opinion of the sloth would have been diametrically opposed to that which he has so erroneously entertained, and so rashly committed to paper. Believe me, gentle reader, good dame Nature has never doomed a child of hers to such a sorry task as this, of falling wilfully from a tree through the pressure of hunger. No such thing. Long ago I showed in the "Wanderings," that the sloth is amply provided, by its formation, with everything requisite for the preservation of health and life, in the arboreal regions where Providence has ordered it to roam. Far from stripping an entire tree of its leaves, in order to satisfy the calls of hunger, I know, by actual observation, that the sloth merely takes a mouthful or two of the foliage at a time, and then moves onwards. Its falling from the tree, "like an inanimate mass," is an imaginary speculation, fit for the nursery fireside on a winter's evening. Fancy to yourself a sloth falling souse to the ground from some lofty tree in the forest! If not killed on the spot, most assuredly it would be in no trim to pursue its journey in quest of food. A surgeon, or a nurse with a poultice, would be required immediately—but, alas, as I know too well, these articles are not to be met with in the far distant and immeasurable wilds where the sloth takes up its abode. Let us hope that future writers on the form and economy of animals will pause, and pause again, before they send their labours to the press.

"Nocturnâ versate manu, versate diurnâ."

Whenever we inspect an animal, the formation of which puts us at defiance, we must not rely solely upon conjecture. We may rest quite assured, that every animal is perfect as far as regards the situation in which it has been placed by nature, and the economy which it is destined to practise. The outlines of its supposed "bungled conformation" may always be attributed to the fallacy of our own misconceptions, and not to the ever-faithful hand of the Creator.

A trifle more on the habits of certain animals, which, when left to their own resources, know exactly where to find their necessary food. Many animals have a very confined range—the human louse, to wit

Others have an unbounded one—for example, a travelling tom-cat. Some animals may inhabit only certain parts of a country, as a Bengal tiger. Others, again, are positive cosmopolites, as is the case with the Hanoverian rat. Other animals are known to thrive in one locality, and to perish in another, although both localities appear pretty nearly the same to us short-sighted mortals.

Thus, about eight years ago, I had occasion to dissect an old turkey cock, of the wild American breed. It swarmed with lice to an inconceivable extent. Whilst I was engaged in the dissection, lots of these gallinaceous lice found their way on to my own body. I knew full well that they had got into a wrong box, and that they would not keep company with me for any length of time. So I let them have their own way, and I gave myself little or no trouble about them. In less than four and twenty hours, every louse of them had either died or dropped off—proof sufficient that their change of locality had been fatal to them, and that a turkey's louse is not intended by nature to thrive, or to exist, on the person of human beings.

Now, on the other hand, we hear of animals so constructed, and of such a pliable temperament, that neither change of food nor of climate appear to have any deteriorating effect upon them. I may here introduce the Hanoverian or Norway rat, as a genuine and undoubted specimen. It can thrive amazingly, either in the pig-stye or in the palace. I have known it to gnaw away the protruding angle of one of our old blue and red burnt bricks (nearly as hard as iron itself), which happened to be in the way of a proposed run; and I have at times observed it in localities apparently inaccessible to things of flesh and blood. Add to this, it can swim like a fish. We have a phenomenon here just now, that really ought to be recorded, nothwithstanding my repugnance to this greedy little beast. Almost every part of the country teems with Hanoverian rats, and we read in the newspapers, that a similar plague has appeared in some parts of France. This rat, as everybody well knows, maintains itself on plunder. No prog,—no Hanoverian. "*Point d'argent,—point de Suisse*," as the old French saying has it. Luckily for me these audacious thieves can no longer enter my house nor the out-buildings, so effectually have I barred their entrance into these important places; but they have punished me awfully in other parts. They have rooted up and eaten all the crocus bulbs, stormed the potato-pies, and fleeced the celery. The gardener came to me in a white passion, and he informed me that "them rattens" had totally demolished every early pea, which he had cherished with such care. I tried to pacify him by observing, that sometimes such misfortunes will happen, in the best regulated families, take what pains we choose to protect our goods. "'Them rattens' are a hungry race, George," said I; "and I don't know what we can do, because they are our masters. A winter in Nova Zembla, or a summer in the tropics, is all one to them. Hanoverians will fatten on fish in Iceland, and luxuriate amid carrion in the burning plains of tropical America. The cellar and the garret are all one to them, provided prog be within reach."

Once when I was studying poetry at college, I attempted to celebrate in verse the arrival of "them rattens" in our country. The song began thus:—

> "When want and misery ran over
> The worn out soil of far Hanover,
> Guelph took his stick, and put his hat on,
> Came straight to England's shore to fatten,
> And brought with him his half-starved ratten," &c.

I have introduced the foregoing little episodes, if I may call them so, and adduced the different localities of different species of animals, in order to prepare the reader for the well-defined, and the indubitable range, in which I am about to locate the entire monkey family, great and small, on both continents. I say locate, because I feel quite sure that this numerous family has one particular range allotted to it, and no other;—just as the land has been given to ourselves, and the sea to fishes. Moreover, this family has never yet strayed out of the range which it now enjoys; and no occurrence will ever force it to abandon this range, until time shall be no more. If the reader should expect to find, in the sequel of this treatise, a minute description of each class of monkeys, together with their divisions and their sub-divisions, and also a lengthy catalogue of modern names, the very sound of which would startle a bat in its winter cave, I hasten to undeceive him. Still, if I could be convinced that such a detail would be necessary or instructive to the general reader, I fancy that I could succeed in demonstrating, to a nicety, the exact difference in length, breadth, and thickness of an orang-outang's great toe nail, compared with that of the Senegal baboon. But this refined section of descriptive natural history has never been much to my liking; and I willingly make it over to those scientific gentlemen who fancy that there is as much real knowledge to be found in the closet as in the field.

But before I enter, once for all, into the subject as far as regards the true locality of monkeys, I must draw a little longer on the patient reader's time, and ask him to join me in an imaginary view of this our terrestrial globe; and to keep in remembrance particularly that portion of it, where I have long been convinced in my own mind, that the entire monkey family is to be found, and to be found nowhere else throughout the whole world, saving on the Rock of Gibraltar, already noticed at the commencement of this treatise. Ovid, pleasing and instructive poet, has beautifully described the geographical sections of our planet. He tells us, that two of these are in everlasting snow. Two afford a temperate climate, whilst a fifth, lying betwixt these, and occupying a space of twenty-three degrees and a half on each side of the equator, is wonderfully warm and fertile; and it goes by the name of the torrid zone. He who ventures into the dreary regions of frost and snow, should he be a naturalist, will see that no animal can remain there with impunity when food becomes deficient. Away the famished creature goes elsewhere, in search of fresh supplies. It is then that undeviating instinct acts her part, and unerringly shows the tract which must be followed—whether through the yielding air, or in the briny wave, or on the solid ground. Thus, when "Boreas, blustering railer," announces the approach of winter, we find that shoals of fish glide regularly to the south, and flocks on flocks of migratory wild fowl forsake their cold abode; whilst the quadrupeds, with here and there a solitary exception, all turn their faces to the south and leave the roaring storms behind them. But man, having been endowed with reason, can carry food and make his shelter whichever way he bends his steps, braving the howling blast. Still, with every possible precaution, an awful death may sometimes be his lot.

Thus Sir John Franklin and his brave companions, after enduring more than can well be conceived, sank to the ground, each "a stiffened corse, stretched out, and bleaching in the northern blast." Poor noble rovers, lost, alas, for the ends of science !—after all, the benefit of a north-west passage is but a thing of emptiness. Leaving the frozen zones, we enter the two temperate ones, which have, equally with the frozen zones, their millions of creatures both to shelter and to feed. Still, even many of these, in certain localities, are obliged to take their departure in autumn, to reap the benefit of a warmer sun. Our birds of passage so called, although apparently quite at ease amongst us, suddenly leave Europe for six months in the year, wending their way to Asia and to Africa. In a word, the man who spends his time in nature's field will have innumerable facts to show, that food and shelter, as I have already observed, are the two main inducements which instigate animated nature to make its periodical movements, or to remain altogether in one locality, should food and shelter be at their command. We now come to the torrid zone, which may be aptly denominated the paradise of monkeys. Although the regions in the temperate zones are open to this active tribe of animals (I will no longer style them quadrupeds), still it seems that nothing has induced it to migrate from its own native and enchanting territory ;—a magnificent range certainly, of no less than forty-seven degrees in extent ; and superabundantly replete with everything necessary for life, for food, for safety, and for gratification, no matter at what time of the year it be inspected.

The torrid zone, then, is the favoured spot on which to lay the foundation-stone of monkey-economy. It will be an entirely new fabric. The attempt may seem to border on rashness, or on self-sufficiency. When finished and offered to the public, should it be found faulty in the eyes of our first-rate naturalists, and be condemned by them, I will bow submissive to their superior knowledge and experience, and I will commit this treatise to the flames, just as the curate and the barber of Cervantes served certain books of the knight-errant's unlucky library. "*Al fuego*,"—"to the flames," exclaimed these keen inquisitors, when they had opened a volume of no apparent utility, perhaps even with poison in its pages. I have read some books on natural history, which, if they had their due, deserve no better fate. The torrid zone generally gives us a rising and a setting sun of gorgeous splendour, with only a trifling variation in the length of day throughout the whole year; and so warm are the lower regions of this zone, that the sensation of cold may be said to be unknown, saving when paroxysms of ague attack the human frame. In this delightful section of our planet, the traveller's notice is arrested by forests of immeasurable magnitude, where trees of surprising height are in never-failing foliage. On numbers of these trees may be observed, at one and the same time, a profusion of buds and blossoms, and green fruit, and ripe fruit, to the utter astonishment of every European knight-errant who travels amongst them in quest of zoological adventures. Here hang huge nuts and giant pods in vast profusion; and when the latter have been eaten by the monkeys, or have fallen to the ground, in their over-ripened state, multitudes of other fruit-bearing trees, in other parts of the forest, produce a new supply in rotation, during the whole of the time that the sun is performing his annual course through the well-known signs of the zodiac, so beautifully enumerated by a latin poet:—

> "Sunt Aries, Taurus, Gemini, Cancer, Leo, Virgo;
> Libraque, Scorpius, Arcitenens, Caper, Amphora, Pisces."

In a word, the vegetable productions of the torrid zone may truly be styled inexhaustible and everlasting. No autumn to arrest their growing vigour, no winter to smite their beauties to the ground, they perform the task assigned to them, under the protecting influence of congenial spring and summer. The year throughout I could scarcely ever detect a tree denuded of its foliage by nature's mandate. So imperceptible was the decay, and the renewal of the leaf in general, that I never should have observed it, had not my eye occasionally wandered over its changing tints, from birth to maturity. Although most of these tropical productions are unpalatable to man, still they are both sweet and nourishing to the birds and quadrupeds of the woods. On one occasion I found a tree covered with ripe figs, on the bank of Camouni creek, a tributary stream to the river Demerara. It was literally crowded with birds and monkeys. These last scampered away along the trees on my near approach, but most of the birds, saving the toucans, remained on the boughs to finish their repast. If I had fired amongst them, some dozens must have fallen; so, to save a cruel and a useless slaughter, I contented myself with remaining a harmless spectator of the ornithological banquet. I am sure that I acted rightly. Once more, I wish to draw the attention of the reader to those ever-fruitful forests of the torrid zone. I would sometimes say to myself as I was roving through them, that if a man could climb like a monkey, and feel as safe and as much at his ease as monkeys are in them, he might amuse himself amongst them from month to month, and from year to year, without any fear of a deficiency of trees to arrest his journey onwards, and force him to the ground again—so dense is the foliage, and so interwoven are the branches. Indeed, the traveller who contemplates the altitude of these trees, cannot but form an indifferent opinion of those in his own woods at home. These are merely dwarfs, whilst those in the wilds of Guiana appear like mighty giants. One could fancy that they had been trained originally by the hand of Omnipotence itself to ornament the grounds of Paradise for Adam. Never can I forget, to my dying day, the impression which the contemplation of them made upon my mind—a mind, I may say, serene amidst nature's pristine beauties, after having left behind it the chequered joys and sorrows of a dull existence in its native land. Many a time whilst roving onwards I would strike a light through mere wanton amusement, and apply a match to some hollow tree before me; the enormous trunk of which might have aptly been denominated the chimney at the furnace of old Polyphemus, the Cyclop. My young readers will learn, in the course of their studies, that this notorious giant lost his only eye, which was like a huge shield in the middle of his forehead, by having had it scooped out through the application of a red hot pine-sapling. As there was no owner to this endless woodland empire, nor any lawyer of course studiously at work to point out the exact bearing of those well-known words "*meum* and *tuum*," I considered it all my own by right of discovery. The flame, rapidly ascending, roared through the enormous arboreal tunnel, and the dense columns of black smoke, as they got vent at the top of it, started dozens of bats which were slumbering there in peace and quiet, heedless of approaching danger. But neither in this, nor in any others, which I pried into from time to time, could I surprise or detect a monkey. Hence I drew the conclusion, that hollow trees had no attraction for these animals. In fact, if I may judge by what I know of the habits and the nature of monkeys, there is no more chance of finding a monkey in the hollow of a tree, than there is of surprising me myself on a Sunday morning in a church of the creed by law established in these realms—a church which, notwithstanding its abundant supply of loaf and fish, I cannot pronounce to be, in my eyes, anything better than a "*statio malefida*,"—an unsafe anchorage. Monkeys are by far the most expert climbers in the known world. By the extraordinary formation of all their four limbs, and by their peculiar propensities, they are formed by nature to be heritors of the torrid regions, where summer, solitude, and sustenance are ever to be found. I stop not here to notice extensive tracks which are usually called savannas in the new continent. Some of these are dry, and others wet; but a description of them is not called for just now, as they have not trees in contiguity, and thus, of course, they are not frequented by the monkeys. You may see many species of birds in these savannas, and herds of wild swine, whilst occasionally a tapir will be observed passing from swamp to swamp—but no monkeys, either great or small. Monkeys would be hard set to live here. We must go and seek them in the lofty trees, where a descent to the ground would neither be advantageous nor necessary.

During the time which I passed in the apartment of the large red orang-outang, which attracted so much interest, so much admiration, and ultimately so much disgust, I really considered him to be quite out of his sphere. As he moved to and fro, he did it with a sort of reeling motion, and his gait was remarkably awkward; and when he stood on two legs, his figure was out of all proportion. You might see at once that nature never intended him for a biped. To us mortals alone, has the Creator granted the sublime privilege of standing upright. "*Os homini sublime dedit*," &c. In his movements on the floor, he had the appearance as though he were swung in the loins; but no sooner had he ascended the large artificial tree, which had been so aptly prepared for him, than his countenance underwent a visible change; and all seemed to go rightly with him, as though by magic. He swang with amazing ease, and apparently in excellent humour, by one arm, from branch to branch, imitating the pendulum of a clock; then he would spring to another branch, and alight on it upon all-fours, with astonishing agility and steadfastness; and often he came down a sloping part of the tree, head foremost, as though he had been walking on the level ground. So long as he remained in the tree, his every turn and movement indicated that he was just where he ought to be; and he clearly showed by his actions, and by his manifest self-possession, that the tree to him was exactly as the ground is to us, or the water to the finny tribes. I had, indeed, a most favourable opportunity of making a few observations on the deportment of this huge but inocuous ape, both whilst I was inside and outside of his metropolitan prison. I soon saw clearly that the tendons in his long and strangely-proportioned arms did all his work for him, as he jumped from place to place, or whilst he remained suspended from the branch which he had seized. When all his four limbs were collected on the branch, his hinder ones seemed merely to act as steadying-props, or secondary adjuvants. It was only when he thus exhibited himself, that I could form a correct notion of the astounding strength with which nature had endowed the fore part of his body. A movement, that would have been utterly impossible to the most active of us lords of the creation, appeared ease itself in this unsightly brute. Thus, having witnessed the obvious self-possession and activity of the orang-outang in a tree, and having seen a full display of its awkwardness, and apparent want of confidence, after it had descended to the ground, I pronounced it, within my mind, to be an absolutely arboreal animal, in every sense of the word; nor shall the collected writings of all authors, modern as well as ancient, who have given us detailed and positive accounts of this great ape's achievements on the ground, ever convince me to the contrary. This interesting "wild man of the woods" died when least expected to have been in danger; and an unforeseen event deprived me of an opportunity to examine its remains.

Here, with the courteous reader's leave, I will avail myself once more, and for the last time, of a short dialogue betwixt myself and this departed ape, although I am fully aware that such a mode of imparting zoological knowledge is quite beneath the notice of our sages, who are all for solemn science; still, I venture to hope that a little deviation from the ordinary track of writing, will be pardoned by them, and possibly may tend to avert an attack of drowsiness on the part of the reader, whilst the book is placed open on the table before him.

DIALOGUE.

"Tell me, interesting ape from Borneo, are you quite at your ease, when you are seen suspended by your arms from the branch?"—"Perfectly so, my dear sir; all my limbs have been formed by the hand of our Creator for exercise amongst the branches of the trees. Only examine me minutely, and you will perceive that my very body itself is wholly adapted to a life in the trees, for it is remarkably brawny in the fore parts, and slender in the hinder ones. This gives me a wonderful power of safe transition through the trees, be they ever so high. I am absolutely and entirely a native of the arboreal regions. Pray, do examine my limbs. The fore ones are hands complete like your own, saving that the thumb is somewhat shorter. Although in appearance slender, they are so tendinous and strong, that when I have once applied them to a branch, I am in the most perfect security. Now, my hinder limbs—as, no doubt, you will have observed already—are of a construction the most singular, and at the same time the most useful that can possibly be imagined. They are half-hand and half-foot conjoined. Thus their fingers assist those of the fore hands in climbing, whilst the heels tend to keep me perfectly steady on the branch, wherever I rove. With such a formation, say what have we to do on the ground? The tree is our undoubted locality. It is equally our birth-prerogative and the place of our death. Believe me, that all we of the monkey family, whether in the Old World or in the New, are inhabitants of the trees, and of the trees only,—saving that little colony of ours in Gibraltar; and we have, unfortunately, no tradition to inform us how, in the name of wonder, they ever got there. Be assured, if they could, by any chance, slip away from the garrison, they would, to an ape, rejoin our brethren in Barbary, and come within the tropic, when the sun is on his returning journey from the north. In fine, let me tell you, my dear sir, once for all, that every monkey in the known world, whether in infancy or in old age, whether in health or in sickness, whether in freedom or in captivity (as, alas, I myself now am), is never at perfect ease, unless in the trees of the forest."

In height, the orang-outang, which is the largest ape hitherto discovered, does not exceed five feet. Our own unrivalled comparative anatomist is, I believe, of this opinion, although I have formerly read of an ape, killed and measured in Sumatra, approaching nearly to seven feet. Most probably there has been an error here.

Monkeys would be poorly off, indeed, if they had to seek for their daily food on the ground. Supposing, for an instant—which, by the way, is not the case—that their daily food does attach to the ground, pray tell me, how they are to acquire it? They have not snouts like those of swine, formed particularly to root up the earth, nor feet like badgers which will penetrate it to almost any depth. Their fingers and their nails are nearly similar to our own. Say then, how could we, by the bare use of our hands, get at a root of horse-radish, or of aconite? Ah, that poisonous root aconite! Poor young Mackenzie perished by it. Well did I know him. Not a more virtuous, nor a more amiable, nor a more charitable young gentleman could be found throughout the extent of Scotland's wide domain. Better fate did he deserve than to have lost his valuable life, through the blundering mistake of a culinary menial—who having been sent to the garden for a root of horse-radish, most unfortunately brought back with him a handful of aconite, commonly known by the name of monk's-hood or wolf's-bane, and it served to garnish a dish of roast-beef for dinner.

I trust that my young readers will have formed by this time a competent idea of the beauty and grandeur to be observed in the ever-green forests of the torrid zone, where, as I have already remarked, in its lower regions cold is utterly unknown, except in sickness; where fruit is ever ripening; and where man, with all his deadly weapons, is but a transient visitor in the wilds; and when he does make his appearance there, can easily be avoided by the brute creation, which invariably retires on his approach.

"And every beast before him ran,
To shun the hateful sight of man."

These magnificent, and nearly impenetrable forests, then, flourishing in the torrid zone, seem to invite the entire monkey family to come and be happy in them. They say to these amusing animals, as it were, "Ours is really the only place on earth to suit you. Our noble trees will eternally supply you with food; so that, you will never find yourselves under the necessity of going in search of it, apart from these joyous abodes."

In examining the four limbs of a monkey, everybody must see at once that they have not been formed by nature to do much work upon the ground. I don't venture to say that monkeys never come upon the ground. Occasionally they may leave their usual haunts for a short time, just as we ourselves exchange land for water, when we wish to have a dip in the ocean. So may a monkey pop into a rice field,—but he would not stay there, even although his safety were not in jeopardy. Were he to try his speed on the ground, the very thumb itself would be an impediment in a course forward, whilst the long fingers would soon fail to assist him effectually as he advanced in his career. Do but inspect, for a moment or so, the inside of a monkey's hand. You will find it as soft and delicate as that of a lady, as I have previously observed, who always wears gloves. It would not be so were the monkey accustomed to run on the ground. Now the branches of the trees being resilient, they give way, to a certain degree, when pressed upon—and this probably is the cause why all monkeys' hands are soft and tender. On the contrary, were those hands continually in the same position, as the feet of dogs, they would inevitably assume a texture hard and rough. Take a young milliner of blooming nineteen, and feel the softness of her hands, which have never done any hard work—for she has not been in the habit of rubbing the dirty steps at the door with a sandstone, nor of scouring fish-kettles on her knees in the back-kitchen, as the poor scullion did in "Tristram Shandy." No such thing; she has passed her time in exercise more mollient. But examine the hands of a weather-beaten mason. You will find them as hard as the Marpesian rock. He has been working all his life with the pick and the crow-bar. Pressure then, according to its intensity, will never fail to render both our feet and our hands extremely hard and rigid; whilst, on the contrary, absence of pressure will allow them to retain their pristine delicacy of texture. If the reader should ever chance to dip into my autobiography, which he will find in the " Essays on Natural History," he will there learn the vast difference there is betwixt a tender toe and a tough one. He will see how severely I got punished, by rashly presuming that my feet (after I had now worn shoes for twenty years) were in the same hardened state as they formerly had been, when, by going barefoot, they had become callous, and could support me with impunity, as I wandered through the asperities of a tropical forest. I have no doubt but that, if a soft and tender-footed orang-outang from Borneo had accompanied me that morning to Rome, he would have been equally disabled and footsore. Custom, they say, is second nature; still custom, when I contemplate the singular formation of all the four limbs of a monkey, will never adapt them, in my opinion, to perform the task of a long journey on the ground. But it is almost time to close this little treatise, in which I have carefully abstained from looking on the monkey family with a scientific eye, merely confining myself to show, that the outward formation of a monkey's limbs, disables it, in a great measure, from living on the ground, whilst the forests of the tropics hold out to it an everlasting convenience for the gratification of its appetites—aye, for millions upon millions of individuals which can spend their whole lives upon these trees, in freedom and in safety.

I willingly resign to our grave masters in the school of zoology the sublime task to show cause why a monkey, approaching so near to man externally, should be internally as far distant from him as the mule itself is, or the mule's father, the ass. When they shall have enlightened us on this point, I will courteously ask them to explain why one cow has horns and another none? Why does a dog lap water and a sheep drink it? Why has the horse the large warts on the inside of his legs? Why does cock-robin sing for twelve months consecutively, whilst his companion, the chaffinch, warbles but half the time?

Leaving, then, these gordian knots to be unravelled by more expert hands than mine, I must beg permission to repudiate the accounts which have reached us of apes armed with clubs, and of their assaulting men in the forests; of apes taking young black ladies up to the tops of the trees, and persuading them to join company for three long years; of apes throwing fruit, at stated distances, from orchards into each other's hands; of apes building habitations for themselves; of monkeys preaching in the wilderness; and of others acting the part of skilful surgeons, by stopping hemorrhages and by subduing inflammations. These amusing fables must have been invented by designing knaves, to gull some credulous adventurer in want of matter for a book of travels. I never saw anything of the sort in the forests of Guiana.

There is difficulty in assigning to the monkey family its true place in zoological nomenclature, for monkeys cannot be considered four-footed animals, as they have really no feet, neither are they exactly four-handed animals, as their hind limbs are formed of half-feet and half-hands. Neither can they be named bipeds, although some naturalists would fain make us believe that orang-outangs and chimpanzees will walk upright like ourselves. But this wants explanation. In captivity, I grant that they may be trained to stand and hobble along on their hind limbs; but in freedom such an exhibition will not be seen, because monkeys, being inhabitants of trees, and of trees only, an upright position, similar to that of man, would never be required, and if attempted could only be momentary, on account of the nature of the branch upon which the attempt would be made. Certainly, as far as the fore limbs are concerned, they may safely be pronounced arms and hands; but, then, how are we to dispose of the hind ones? Their termination is neither an entire hand nor an entire foot, but, as I have more than once remarked, it is an evident compound of both. The combination of all these four limbs makes a monkey by far the most expert climber of a tree in the world; and as in form and in habits it differs widely from all known animals, I would suggest to our learned naturalists, who are so very happy in bestowing names, the propriety of coining a new name for the family of the monkey, and assigning it a place apart in the zoological category.

Ere I close this little treatise, I will venture a recapitulation, as I think it may be of service. Let the young naturalist bear in mind that I have divided the whole of the monkey family into four sections—viz., apes, baboons, monkeys with ordinary tails, and monkeys with prehensile ones.

I had rather recommend this simple plan to his notice, than terrify him with a list of hard names from modern books, and bewilder him with divisions and subdivisions of this interesting family, until his head can no longer tolerate the scientific burden.

Let him also remember that all monkeys, saving a few isolated apes on the Rock of Gibraltar, are inhabitants of the torrid zone. Some few, perhaps, may stray for a degree or so beyond the tropics, but then their movements to and fro will be regulated by the sun's apparently revolving movements within the tropics.

Again, let him reflect that no monkey, either great or small, in either hemisphere, has limbs formed like the limbs of quadrupeds, but that they have hands, properly so called, with long fingers and with thumbs (these last have been denied to one or two species), most singularly shaped to assist the animal in traversing the trees; that no monkey has yet been discovered, or probably ever will be discovered, with limbs essentially differing in form from those already known to us. Moreover, that none of the monkey family make nests, nor do they prepare any kind of dens or recesses amongst the branches of trees, wherein to retire for the propagation of their race.

That their only true resting-places are the branches and the clefts of trees, both of which they uniformly desert when food becomes deficient.

That the young ones cleave to their mothers' bodies wherever their mothers ramble, without any risk of falling, just as the young bats in this country are known to cling to theirs.

That the largest species of this wonderful family, far from showing signs of pursuit, or of resistance, scampers away amongst the trees on the appearance of man, whilst individuals of the lesser tribes will sometimes mount to the tops of the trees, and there look down upon the passing traveller below, apparently with astonishment, as though they recognised in his physiognomy some faint traces of a newly-arrived cousin.

Whilst we admire the lion walking on his path, or observe the jaguar crouching on the bole of some inclined tree, half-rooted up by the force of the hurricane; whilst we contemplate the bull ruminating in the plain, and the roebuck bounding o'er the hills; we see them in situations exactly suited to their forms and to their appetites.

Then let us have the monkey just where it ought to be, and nowhere else. Its shoulders, its strong and tendinous arms, the strength of its fore parts, and the slender structure of its hinder ones, its appetites and astonishing agility,—all conspire and force us to concede that patrimony to the whole family, for which never-erring nature has most admirably, and most indubitably, adapted it. There aloft, amid the trees of the tropics, it will find a harmless neighbour in the sloth—slow indeed and awkward in the extreme, as I have shown heretofore, when forced from its native haunts, but lively and active when allowed to remain in them. Whilst the monkey moves with speed, with firmness and security on the upper parts of the branches, the sloth will be seen rapidly progressing underneath by clinging to them—both fulfilling by constitutional movements their Creator's imperious mandates. When viewed at a distance these two inhabitants of the forest appear genuine quadrupeds, but a near inspection shows their true characters, and proves that they ought not to be styled four-footed, nor even four-handed animals. The monkey exhibits nothing that can be correctly called a foot, saving the heel on its hinder limbs ; and the sloth can show nothing that can even be considered part of a foot. Here, then, I bid farewell to the interesting family of the monkey, having done my best to assign it a domain, where, aloft from the ground, and with everything that can conduce to its health, to its safety, and to the gratification of its propensities, it can enjoy life, and unerringly fulfil the orders of an all-wise Providence, which has destined it, not to be an inhabitant of the ground, but to live, and to perpetuate its progeny amid the everlasting verdure of the forests in the torrid zone.

A reviewer in *Fraser's Magazine* for December 1857, having impugned the accuracy of this history of the monkey family, Waterton replied in his Introduction to the Second Edition :—

"My last little book goes merrily along, both in England and in France, notwithstanding that here, in our own country, Fraser, my former kind and liberal noticer, has pelted it with mud. I should have borne the unwelcome plaster on my rhinoceros hide without a single grunt, had I not imagined that some parts of his critique were detrimental to the real interests of natural history.

"One could scarcely imagine that, in these days of zoological research, my peppery reviewer will still adhere to the antiquated and preposterous notion that monkeys possess the faculty of throwing stones. In support of this absurdity he quotes the following passage from Acosta:—'Perhaps,' says our learned critic, 'he (Mr Waterton) will not object to the evidence of Acosta, who relates of a quata (*ateles paniscus*) which belonged to the Governor of Carthagena: They sent him to the tavern for wine, putting the pot in one hand and the money in the other. They could not possibly get the money out of his hand before the pot was full of wine. If any children met him in the street, and threw stones at him, he would set his pot down, and cast stones against the children till he had assured his way.

"Now, it were to be wished that my reviewer had 'assured' us that Acosta, with his own eyes, had actually seen the quata in the act of throwing a stone. No such thing. The quotation is worthless without this declaration on the part of Acosta. No doubt, Acosta had heard the story, and possibly might have believed the absurdity. In Demerara, more than fifty years ago, we had a current narrative of a monkey which used to fetch a pitcher of water daily from the cistern to its master's house. Everybody believed the tale; but I could never find the identical house in which the monkey lived, nor learn the master's name, nor find out precisely what species of monkey it was, whether from Africa or from the wilds of Guiana, which performed the wonderful achievement.

"But to Acosta's 'quata.' I was a rover in the same forests with quatas for many a long month, and I can affirm that, of all known monkeys, the quata is the least disposed to act the biped. Malice, mischief, and malignity are its ruling powers. It could no more be sent on an errand through the streets of Carthagena than I could be commissioned to navigate the river Styx. The act of throwing stones at the children clearly proves the account to be an idle story, based, probably, on some old negro slave as ugly as a quata.

"There is something in the whole race of monkeys perpetually militating against their being allowed to run loose in their reclaimed state. What this something is I leave to profound zoologists to determine. We know that the wild boar can be brought to herd with our domestic swine. Formerly, with untiring patience, I succeeded in educating the Marjay tiger-cat (considered by Buffon to be untamable) to hunt with pointer dogs. But never, during the course of a long life, either here in England or elsewhere, have I ever met a monkey unattended in the streets. No, indeed! such a sight would be a phenomenon as marvellous as that of the flying Dutchman in the stormy regions round the Cape of Good Hope.

"When I was in Malaga, at the beginning of the present century, a king of Spain was said to have possessed an ape from Barbary of surprising sagacity. It was so docile, so knowing, and so calculating, that it was allowed to play at chess with the monarch; and so soon as it had discovered check-mate to His Majesty, it took to its heels, and scampered off, in order to avoid a bastinado for its presumption. This ape would have done to run in couples with Acosta's celebrated quata.

"My reviewer's story of the 'male Egyptian night-walker,' is a bungled composition. Having broken his chain, and got at liberty, he 'ascended a building, from the roof of which he plied the tiles about the heads of the keepers with such dexterity, strength, and nimbleness, that he fairly beat them off, after untiling almost all the place.

"Here we have a monkey, apparently throwing tiles at the heads of the keepers with considerable noise and clatter. The true bearing of this wonderful *fracas* is easily shown, without much loss of time and ink. Thus, tiles are mostly arranged on the roof without the use of mortar; and this must certainly have been the case here. Had they been fixed with mortar (or pointed, as it is usually called), I defy any monkey to have dislodged them. Now, if these simpletons of keepers (who, it seems, had lost all presence of mind at the sudden escape of their supposed revengeful prisoner) merely observed if its face were turned *to* them, or *from* them, this would have enabled them to discern whether it were actually throwing the tiles at their heads, or whether the tiles, dislodged by the monkey scampering over them, were merely coming down to the ground by their own weight. In a word, the voluntary return of the prisoner to its keepers clearly proves, that it had entertained no animosity against them; and, of course, would never have thought of plying their heads with tiles.

"My reviewer's account of 'Happy Jerry, from the Guide-Book,' is an obvious failure. He neither gives us the name of the person who saw it kill the boy aboard the vessel, nor even the name of the poor boy himself. Surely such an awful and unusual feat must be on record somewhere. I blame the reviewer for not looking more narrowly into this suspicious affair. Had he given names and dates, I would have thought it worth my while to show that the death had been caused by accident, and not by intention on the part of the monkey. In its present form I dismiss it as an idle fabrication.

"As for Vaillant's ape, let us call to mind that it was one which had been reclaimed from the forest; and, of course, its tricks were all acquired from the time that it had kept company with man. But Vaillant says nothing of his ever having actually seen a *wild* monkey on the ground, engaged in pulling up herbs with its teeth. No such thing. He knew better than to pawn such a fable upon the public. In truth, he would have us believe, that this tame monkey of his was really endowed with reason, inasmuch as it could discover, by some faculty or other never as yet granted by Providence to the monkey family, that its master was particularly fond of a certain root, very 'refreshing and excellent.' Now, Vaillant's monkey, knowing this, took good care to have the first go at the root; and it devoured the savoury morsel before its master could manage to lay his eager hand upon it! This really places the brute on a par with intellectual man himself. Let it be burnt for trash in Don Quixote's library, or, at least, placed on the shelves of my old grandmother's bookcase. It will suit the nursery maid, and make the children laugh.

"My reviewer tells his readers that, in his boyhood, he 'had his eyes full of saw-dust,' in punishment, 'for having offered an apple or a nut, and snatching it away just as the disappointed monkey thought it was within its grasp.' This borders on a fraud,—if not a fraud outright! The reviewer, combating my statement, viz., that no monkey can hurl a projectile, evidently wishes us to believe that monkeys have the art to do so; and he adduces his own experience by telling us, that he himself had had 'his eyes full of saw-dust.' But he carefully refrains from stating that the monkey did actually *throw* that saw-dust in his eyes; so that the reader is left in doubt to determine whether the anterior or the posterior members of the agitated monkey caused the saw-dust to reach my reviewer's eyes. A monkey, disappointed and in rage, may well be conceived to flounce and jump about, and with its posteriors, just as well as with its anteriors, make the saw-dust fly in clouds from the bottom of its cage. I have not a doubt but that this was the real state of the affair. I have here at last the reviewer fairly within my reach. I now call upon him to demonstrate to me, in *propria persona*, that monkeys can hurl projectiles or throw saw-dust. If monkeys, in the days of his boyhood, could perform such feats, certainly they will be able to perform them now. I feel sure that my reviewer is a gentleman; and on the strength of this, I invite him at once to Walton Hall, whence we will proceed on a visit to the best assorted collections of monkeys in the three kingdoms, and, if necessary, we will go to the Continent. I will provide 'stones,' 'tiles,' 'lead,' 'pewter-pots,' and 'saw-dust;' all which things, in my reviewer's belief, have, from time to time, been hurled at men by monkeys. I will obey his orders implicitly. He may place me as near to the monkey as he chooses. Then, should any one of the tribe, great or small, or young or old, throw saw-dust, or hurl projectiles at me, I will give in; and I will publicly confess, in *Fraser's Magazine*, that the information which my reviewer has collected, from hearsay and from books, is sound and valuable to science; whilst, on the contrary, that which I have acquired during a long sojourn in the forests of Guiana (the native haunts of monkeys), is rotten, and not worth one single farthing. Can more be required at my hands? So much for my learned reviewer's intellectual monkeys.

"The reviewer in *Fraser's Magazine* having drawn my serious attention to certain extracts from Acosta, Vaillant, and the Guide-Book, I must confess that, on perusing them, it appeared to me that orthodox natural history suffered sorely at his hands. His belief in the validity of these improbable accounts would lead me to suspect, that whilst I was ranging through the forest, bare-footed and in rags, now moistened by the dews of night, now parched by a noonday sun, my reviewer was engaged in obtaining unsound information from the shelves of his library in ease voluptuous; and every now and then whispering to himself, I too, ere this, had been a rover in the endless woods of America, had not that villanous yellow fever been constantly staring me in the face. But let me touch with gentleness this greenhouse plant—too delicate for Nature's open field. He taunts me with the remark, that 'a little anatomy (learning?) is a dangerous thing,' because, forsooth, in my noticing the poison-fangs of snakes, I have merely confined myself to a few simple words, in preference to a scientific jaw-breaking description; so that our young naturalists might know at once, in what part of a serpent's head these terrible harbingers of death are invariably to be found—and this was all I aimed at. A scientific description would not have cost me much, either in time or trouble; for, on the day in which I penned down my notice of the poison-fangs, I had more than half a dozen rattlesnakes around me.

"I marvel how old *Fraser's Magazine*, so long and justly famed for science, pith, and marrow, should have stained its fair pages by inserting into them extracts such as those which my reviewer has selected from Acosta, Vaillant, and the Guide-Book, to convince me that monkeys are on a par with us intellectual beings. Some of the tribe have, no doubt, a near resemblance to ourselves;—hence the whimsical verse, said to be from the pen of old Ennius, '*Simia, quam similis, turpissima bestia nobis!*' It is a clever hit at us, but it only appertains to the outward form of man. So far as rationality is concerned, the ape has no more title to it than has the half-starved donkey, cropping thistles on the Queen's highway.

"My little book having worn out its first suit of clothes within the year, has just been supplied with another, and in a short time will sally forth again on the world's wide stage. Renewed luck attend thee, my dauntless little fellow. Be sure to thank, on the part of thy parent, those gentlemen who have reviewed thee so kindly heretofore; and shouldst thou fall in with him of *Fraser's Magazine*, tell him with a smile, that thou art not much worse for his discourtesy to thee. Thou mayest add that his critique, like old Priam's javelin, is considered '*telum imbelle sine ictu*,' a harmless dart. Say also, that I entertain no rancorous feeling against him. But, on the contrary, should he accept my invitation to Walton Hall, I will shake him by the hand, and offer him good old English hospitality, until we set out in quest of monkeys possessing the power of throwing stones, or of hurling any projectile whatever. So no more at present, my pretty Pet, from thy affectionate Parent,

"CHARLES WATERTON.

"WALTON HALL, *July* 1858."

THE DOG TRIBE.

"*Canibusque Sagacior Anser.*"

THE above quotation informs us, that the Roman poet Ovid, evidently considered the goose to be superior in sagacity to the dog. We, wiser in our generation, have been taught otherwise ; for, when a man cannot exactly comprehend our meaning, we lose temper and call him a goose ; but when a man shows brain in ferreting out a dubious case, we declare that he has the sagacity of a hound. It appears then, in our times, that as far as sagacity is concerned, the dog is superior to the goose.

I propose not to give a detailed account of the dog family, even were it in my power, and I had the time to spare ; because this family is most numerous, whilst its varieties may be considered as nearly endless. My object is to treat the subject incidentally, avoiding the introduction of hard names, and repudiating refined classification ; which last I willingly leave to those learned naturalists, whose unwearied researches and consummate knowledge will enable them to decide why a sparrow hops and why a wagtail walks. I merely intend to touch lightly upon the virtues and vices of dogs in general, and to look at them in their state of nature on one hand, whilst, on the other, I consider them as obedient slaves under the iron rule of man; but in both positions, I absolutely deny to all dogs the faculty of reasoning—reason is due to man alone. Yes, man alone exerts it, and he alone is entitled to it. It is indeed his just prerogative, instilled into him by the hand of Omnipotence at the time of his creation in Paradise; and the exercise of it constitutes him by pre-eminence the lord of this our magnificent planet. It is the exercise of reason which elevates him above all created beings, and it is the want of it that places every other animal infinitely below him. I prove it as follows:—

Take a dog, for example. Teach him everything that you wish him to learn, and gain his affection by the most unbounded kindness on your part, so that the animal will make every attempt to be your constant companion, and in case of attack will defend you to the utmost of his power. Now, supposing that this favourite dog receives a bad wound, and that he comes up to you with his wound bleeding apace. You attend to it; you rectify it; you put a plaster on it, and then you turn him loose. If the dog were endowed with reason, he would value the plaster; and knowing that it was for his good, he would do all in his power to keep it in its right place, just as you and I would do. But no—reason is not within him. The wound gives him pain; the plaster presses it too much; and immediately the dog, with his teeth and feet, tears all asunder, making bad worse. The more the wound torments him, the more he will strive to get quit of the plaster. He has no conception whatever, that the plaster has been put upon his wound by a kind master, in order to effect a cure. He cannot contemplate a cure. He will bite the injured part so soon as it begins to itch; and if the itching should continue, he will tear all up, unless the master should prevent him. There is no denying this. It is the case with all irrational animals, from the mouse to the mastodon; and it proves incontestibly that the dog, although more susceptible of education in certain matters from the hand of man than all other animals put together, the elephant not excepted, still is far, far removed from the rank of a rational being. The dog, although particularly gifted by nature with a disposition which enables him to receive impressions to a certain amount, even in some instances bordering, as it were, on reason, will exhibit nothing in his wild state, to exalt him above the surrounding animals—no, not above the ass itself. He must submit to the rule and dominion of rational man, in order to excel the surrounding brutes. To man alone he is indebted for an education. Under man he becomes docile, affectionate, obedient, and surprisingly useful. The Spanish shepherd, who always precedes his flocks in their route across the mountains of Andalusia, places his huge white guardian-dogs in the rear, never doubting of their fidelity. In fact, the dog has received from the hand of Omnipotence a disposition that can be modelled into almost anything short of reason. But at reason his instructor must stop. It is beyond the power of man to impart it to the dog. Man may strive his utmost to effect it, but he will always fail in the attempt.

Why some of the brute animals are more susceptible of educational impressions than others, is a secret to us mortals—and it will for ever be one. But this much we know, that, if we wish to have an animal, which will be the constant companion of man—his safeguard in danger, his assistant in necessity, and his slave in obedience—we must apply to the family of the dog in its reclaimed state. In no other class of quadrupeds can such a treasure be found. Take the mule, that is, half-horse, half-ass, and try your best to mould him to your will. In nine times out of ten you will fail. Neither harshness nor gentleness will enable you to break his stubborn disposition; and although you may now and then succeed in overcoming his temper for a while, he will set you at defiance in the long run.

When I was on the west coast of Demerara, I rode a mule in preference to a horse, and I took a kind of pride in my choice, because no other person seemed inclined to engage him. He was a cream-coloured and a beautiful animal, and had been imported from the Orinoco, to work in the cattle-mills of the sugar plantations. I gave him the name of Philip. At times he went quietly enough, but every now and then he would show who had been his father, and you would fancy that the devil of stubbornness had got entire possession of him. He was never able to dislodge me from the saddle except once; and then, being off my guard, he pitched me "neck and crop," as the saying is, over his head. A large brown wasp of the country had issued from its nest under a wooden bridge, over which we were going, and stung him in the face. Hence the true cause of the *fracas*. I don't think it would have happened but for the wasp, as Philip was by no means frisky that morning, and we were going gingerly along. I remember well the circumstance on this account, my head came in contact with the ground, and when I arose, I staggered and fell three times, feeling much confused. So I sat me down on the side of the wide trench which flanked the highway, and when composure was restored, took out my lancet, and drew some twenty ounces of blood from my arm. This prevented bad consequences, and put all to rights. Another time Philip seemed particularly prone to mischief. I prepared for a storm, and the mule made a dead stop. It brought to my mind the affair which Sterne had with his own mule, in the "Sentimental Journey." "Philip," said I, "I can't afford to stop just now, as I have an appointment; so pray thee, my lad, go on." "I won't!" said he. "Now do, my dear fellow," said I, patting him on the shoulder as I spoke the words; "we must not remain here, a laughing-stock to every passing nigger." Philip declared that he would not move a peg. "Then, Master Obstinacy," said I, "take that for your pains;" and I instantly assailed his ears with a stick which I carried in lieu of a whip. "It won't do," said Philip, "I 'm determined not to go on;" and then he laid him down, I keeping my seat on the saddle, only moving in it sufficient to maintain an upright position, so that, whilst he lay on the ground, I appeared like a man astride of a barrel. Nothing would induce the mule to rise. Niggers, in passing by, laughed at us, some offering assistance. Here a bright thought came into my head. The swamps of Demerara being below the level of the sea at high water, each plantation has a sluice to effect a drainage when the tide goes out. An old nigger lives in a little hut close by the road-side, and he has the sluice under his charge. He was standing at the door grinning at us, with his mouth wide open from ear to ear. "Daddy," said I, "bring me a fire-stick." "Yes, massa," said he; and then he drew one, hotly blazing from his fire. "Put it, red hot as it is, under Philip's tail." He did so;

and this was more than Philip's iron nerves could stand. Up he started, the hair of his tail smoking and crackling like a mutton-chop on a gridiron. I kept my seat; and away went Philip, scouring along the road with surprising swiftness. From that day forward, although he had a disagreeable knack of depressing his long ears and elevating his rump, he never attempted to lie down with me on the public road.

Now, if I had had a dog instead of a mule to deal with, the dog, being of a pliant disposition, might have required a little coercion on my part, and that would have been all. Whereas, the mule was equally callous, both to anodyne and harshness; and, in order to reduce him to anything in the shape of obedience, I was obliged to apply the actual cautery—which means, in unsophisticated English, nothing more nor less than a red-hot poker.

Were I asked an opinion concerning the pedigree of dogs, I should say that the entire family of the dog may safely be reduced to one species only—that species consisting of innumerable varieties; so that, barring size, individuals of all these varieties would intermix and produce productive issue. No matter whether we place a cur at the head of the list, or a hound at the foot of it, there will be offspring in abundance; and the size of that offspring will depend upon the size of its parents, "*fortes creantur fortibus;*" whilst its appetites, and the texture of its hair, will mostly depend upon climate, time, and education. Thus let us take a fox-hound. There is no puppy whelped a genuine fox-hound; but, size and speed having been imparted to him by his parents, his profession through life will entirely depend upon the manner in which he has been brought up by man. When first introduced on the field of Nimrod, his natural propensities will urge him to pursue the stag, the hare, the rabbit, and the fox; but, as he has to be an accomplished fox-hound and nothing else, the huntsman, with an awfully long whip in his hand, and with the emphatically pronounced words of "ware rabbit—ware hare" in his mouth, will, in due time, make the uneducated brute comprehend that he is destined to become a thorough-bred fox-hound—the pride and delight of his country lord, and that he must for ever give up all yearning to hunt and worry any quadruped that may start up in his path, the fox alone excepted;

and this wily animal must be pursued by him in a pack, over hill and dale, through brooks and across quagmires, so long as he has a leg to support him in the chase. Anything short of this would expose his instructor to the opprobrium and reprimands of that society of gentlemen, who in top boots and scarlet coats are now known, as far as Rome itself, to be genuine English fox-hunters; although the dull rustics of Italy cannot yet clearly comprehend why dogs should come so far, and foreigners be so eager, to kill a few insignificant foxes. But these Italian peasants are a remarkably dull race. Thus if you tell them that archbishops and bishops in England, of the Church by law established, receive a retiring pension of £5000 per annum until their death, positively these boors will not believe you. Now, this fox-hound here in Great Britain would probably be a sledge dragger in the country round Hudson's Bay, or it might possibly serve as a lap-dog for the knee of some Patagonian giantess. Or, suppose this British fox-hound to have married an Italian greyhoundess, their whelps might be prime lurchers, which are a race of dogs somewhat injurious to us country squires, but in high reputation amongst that very harmless and respectable class of men, usually denominated poachers. These lurchers, in their turn, might have puppies innumerable, all differing in size and shape and disposition. Were these animals not under the control of man, they would still all be dogs, but in nowise a benefit to him, neither in the capacity of sheep-drivers, watch-dogs, turnspits, mastiffs, or hounds. In a word, all untrained dogs may be considered as worthless outcasts, possessing no good qualities whatever; whereas, on the other hand, dogs which have been trained by man for certain purposes are of vast utility to him, and with a few drawbacks, may be considered in the light both of friends and companions.

I cannot be persuaded that dogs existed in South America ere that country was discovered by the Europeans. (See the "Wanderings.") Dogs and cattle must have been imported. Still, how has it happened that the breed of cattle originally from Europe should now positively swarm in America, whilst the dog, from the same country, is but a solitary animal—increasing certainly, as individuals, in the civilised parts, but nowhere to be found in those where man is not located? The question is easily answered. Cattle are gregarious by their own nature, but dogs are not. What!—dogs not gregarious, when we see packs of them in the hunting-grounds; and when we read of congregated dogs, and their cousins the wolves, tearing unfortunate travellers to pieces, and eating them up; are these dogs not gregarious? No—not in the true sense of the word.

I hold it as a maxim (whatever naturalists may think to the contrary), that all herbaceous animals are gregarious, but that carnivorous ones do not come under that denomination.

Packs of hounds are artificial, being entirely the work of civilised man; and as man is endowed with reason, he has it in his power to supply these assembled dogs with food. But supposing these dogs had neither food nor commander. In their hunger they would worry the flocks and fight for the plunder, and when the flocks were all destroyed, each dog would take off in a separate direction for something more to eat.

But this is not the case with herbaceous animals. Their food is always before them. Each individual can have as much to eat as his companion, and we never see them quarrelling for a choice morsel, as they wend their way through boundless tracks of pasturage. Hence, the cattle tribe can assemble in flocks, and graze the plain, unmolested by each other, whilst the dog would not be safe from the fangs of his own father, over the first shoulder of mutton which lay on the ground under their noses.

I have heard and read much of dogs and wolves hunting in packs, but believe it not. The very appetite of a dog constitutes it a solitary animal in its wild state. Let me ask the question—how could a wild dog hunt for food in company, with any chance of sufficient profit to itself? Fancy a pack of them, in full cry, after a zebra in Africa. The zebra is overpowered by them, and down it falls. First come, first served. The strongest and the fleetest get all—all is consumed before the slow and the weak members of the pack can get up. There is nothing for them that day—pretty encouragement, forsooth, in a new hunting expedition on the morrow. But where is the sojourn of ever barking, growling, and carnivorous dogs in the forest? Will antelopes, and kine, and wild asses remain in a neighbourhood infested by such an assemblage of quarreling quadrupeds? No doubt they would retire far away for self-preservation;

and the farther they retired, the longer would the dogs be in finding something for their own craving stomachs. When at a great distance from their supposed retreat, what master-dog will take upon himself to organise the pack? and when the hard day's hunting is over, how will he dispose of his confederates? Are the females, which remained behind on the hunting morning, in order to take care of their newly-whelped pups, supposed to wait in anxious expectation that some generous hound will return with a neck of goat in his mouth for their support? Certainly, if dogs be gregarious, and hunt for food in packs, the system appears very imperfect, and is somewhat against the order of nature, by which the dog can always find sufficient food in the wilds when he is a solitary individual, but must be sorely pinched at best, and often deprived of the means of obtaining it, when congregated, and scouring the country in large and quarrelsome and famished packs. Civilised man can easily find food and shelter for his packs of hounds, but there is no such provision in the regions where dogs run wild. Accidental food is all that these last can find. Were wild dogs to hunt in packs, the daily supply of food would not be sufficient to satisfy the cravings of every individual; and to prevent starvation, the pack would soon be obliged to separate, and each dog to hunt for itself. The lion, a carnivorous animal, springs upon his prey from a lonely ambush, and has no competitor. So it is with the tiger; and so, I have no doubt, it must be with the wild dog—because, by stealthy approaches, and in silence, the neighbourhood is not alarmed,—and herds, which constitute the food of carnivorous animals, would not be driven from their native haunts. But let a pack of hungry dogs make one or two attacks upon the congregated multitudes of herbaceous animals, and then we may rest assured that these last would take the alarm, and would fly for ever from their once peaceful abodes; so that we may consider it a wise provision in the economy of nature that, on account of food alone, herbaceous animals should be gregarious, and carnivorous ones the solitary inhabitants of countries where Omnipotence has ordered them to range.

I do not deny but that half a dozen individuals of a canine family occasionally may be observed in the act of scouring along a plain, or traversing a wood in company, for I myself have counted two old stoats, with their five half-grown young ones, crossing the road before me, as in quest of something. Another time, some thirty years ago, before the park wall was finished, I had a brood of foxes in a stony thicket. One evening, towards the middle of autumn, as I was sitting on a bank, with my loaded air-gun waiting for rabbits, the two parent foxes and five young ones, all in a line, passed before me, not more than fifty yards distant. I remained fixed as a statue. They were cantering away, when one of the young foxes espied me. He stopped and gave mouth. This was more than I could bear; so, as he was sitting on his hind quarters, I took aim at his head, and sent the ball quite through the wind-pipe. Away went the rest, and left him to his fate. Now, had these been wolves instead of foxes, and had some timorous person been in my place, I feel convinced that his fears would have increased the number of wolves, and he would have considered it a most narrow escape from being worried alive by a large pack of these ferocious animals.

Foxes are invaluable in England, and they are never to be disturbed, except by a pack of full-bred hounds. When I reflect on the wanton and wilful murder I then committed upon so cherished a quadruped, my heart misgives me; and I fancy, somehow or other, that the sin is still upon my conscience.

Again, a wild dog hunting for his daily food may, perchance, fall in with one or two others on the same errand, as is the case with the aura vulture, whose habits I have described at large, when I was attacked by Audubon and his friends, for daring to assert that this bird had been gifted with a most sensitive nose.

Although nothing can be said in favour of the dog whilst in a state of nature, still, after he has received an education from man, the whole world will bear testimony to his immense value. Volumes would not suffice to contain instances of his services to the human race. A man and his dog may almost be considered as component parts, each working for the other, whether in heat or in cold, in tempests or in calms. The blind confide in him—the lame have his support—the rich are proud of him; and, too often, the poor man has nothing but his dog to give him consolation. From the stately hound of Cuba (by the way, Cuba is not its original country), down to the little insignificant lap-dog snoring on a lady's knee, the tribe of dog is serviceable to man. But how, one would ask, can the lap-dog be serviceable?—a little snappish, snarling, ricketty thing, not bold enough to attack even a Hanoverian rat. In truth, I feel shy in alluding to the occasional services of this pampered favourite. One really wonders how our elegant ladies, with robes of Tyrean dye and gloves as white as drifted snow, should ever fancy such apparently unuseful little brutes as these, and take them in their arms with fond caresses. Still, let me do them justice—they really have their uses.

In some years we have a heavier crop of household fleas than in others; and when this occurs, these puny tormentors are said to prefer the skin of the lap-dog to that of the lady. Strange taste! not easily to be accounted for. Lap-dogs are well known to be vigilant watchers, both in the night and during the day, and really their services are valuable in these times of diurnal robbery, when members of what is called the swell-mob will walk coolly into a house and carry off all the silver used at breakfast. A lap-dog seems to be ever on the watch, although its eyes be closed apparently by sleep. It starts and gives mouth at the slightest noise, and is thus the means of frustrating many an attempt at robbery. Lap-dogs are better in the house than out of it, for when they are allowed to run loose, they sometimes become very nasty by having rubbed themselves in the first piece of carrion in their way. Again, all dogs have a natural and disagreeable scent coming from them, quite different from that of all known animals. Soap and brushes may subdue it for the moment, but it will return when these are discontinued. If you were blindfolded, and one hundred different animals were presented to your olfactory regions, with ten dogs amongst them, you would not fail to recognise the ten dogs as soon as they were placed under your nose.

Not long ago our dogs were used to draw the poor man's vehicle; but this privilege seems lately to have been withdrawn by an order from the magistrates on the score of cruelty, although in every surrounding country we observe dogs dragging little carts; and I myself can testify that I have never seen a lame dog in harness. France and Belgium are famous for the breed of dogs to be used as horses. If the modern Solons, who have deprived the poor man of this ancient privilege of using his dog in carts, had studied well the nature of a dog's foot, they would have seen that each toe is movable, and that the whole foot, as well as every toe, is admirably defended by a very thick and tough skin, quite adapted to walk on pavements or macadamised roads. Moreover, the dog in harness has no superincumbent weight pressing on his withers, as is the case with the horse, when a man is astride of it. The act forbidding to the poor man the use of his dog to draw a little cart is a bad one, and ought to be repealed. I once witnessed, in the streets of Ghent, a most laughable fray betwixt two kitchen-garden women and two dogs. By bad driving, these worthy dames had let their dogs get too near each other. A desperate fight ensued; the carts were upset; the legumes trodden under foot, and the dogs worrying each other, whilst the drivers, stick in hand, mixed obstinately in the raging battle, each trying to rescue and preserve her own property, to the infinite amusement of the surrounding spectators.

Having contemplated the family of the dog when wild in the woods, and also when under the tutelary hand of man, and shewn how serviceable it is to him, if fully trained, and in proper hands, I will finally consider it, in another point of view, which is anything but favourable to it. There is a stain on its character fixed and unalterable, which, like the blood-spot on the hand of Lady Macbeth, can never be removed, even though Galen with all his knowledge, and Hippocrates with all his drugs, could return from the grave and direct all their energies to this one individual point. I allude to canine madness, commonly called hydrophobia. As nobody seems to know anything concerning the real nature of this terrible malady, saving that it has its origin in the dog, and that by the bite of the dog it is communicated to other animals, any speculation on my part would be quite superfluous. The wolf, too, and the fox, both cousins-german to the dog, are strongly suspected to produce hydrophobia, and to inoculate others through the medium of the tooth. When a man has received a mortal wound, and it has been pronounced mortal by his attending surgeon, he knows the worst. His solicitor arranges his temporal affairs; and his father-confessor prepares him for that awful change which death must soon produce. But a man bitten by a mad dog, although in fact the wound is a mortal one at the moment of the bite, still this poor unfortunate victim may be doomed to live in suspense for weeks and months and even years; and when death at last comes to his relief, the surgeon who opens the body for inspection will find nothing there to indicate disease. Nay, the most singular part is, that the defunct was enabled to exist in perfect health, and to perform all the ordinary duties of life, as though all were right with him:—whereas, in truth, death was within him and ready to strike the fatal blow, at the period, perhaps, when the man himself had forgotten that he had ever been bitten. Although some people who have been bitten by a mad dog live under great apprehensions of their fate, others have been known to labour under hydrophobia without being the least aware of its origin. Who, then, can define the nature of this woful disease—so invisible, and for a length of time so harmless and so quiet in the body of its victim, but so outrageous and so incurable when it does at last break out? This ought to warn incautious people how they become too familiar with any of the dog family.

As regards myself, having been once in jeopardy, I own that I have no great desire to see dogs in my house. Firstly, the disease alarms me; secondly, I don't like to have my furniture bedewed every time that a dog passes to and fro; thirdly, the yelping of a dog, on a stranger's arrival, is very disagreeable to my ears; and fourthly, dogs, by prying into every bush and corner, are sure to drive the wild birds far away. Under these considerations, I appropriate to dogs their proper domicilium, which is the kennel. Mine is particularly clean and commodious. Many years have now elapsed since the dog and the Hanoverian rat were forbidden to pass the threshold of my house.

I have heard of a professional gentleman in the north who doubts the existence of hydrophobia. Facts, they say, are stubborn things. I have seen too much myself to doubt that such a malady does prevail, although I know not how it is engendered, what are its component parts, or by what process it brings death into the system. Dozens of letters are lying on my shelf to give me information of the commencement, the action, and the final termination of hydrophobia. When I was a boy, I remember well to have heard the case of the unfortunate Mrs Duff. She was so lovely in her appearance, and so perfect in her form, that she was pronounced to be the perfection of beauty and symmetry. She had a favourite little lap-dog; and one day it bit her slightly. The wound was trifling, it soon got well, and nothing more was thought about it; but at last the fatal day of sorrow dawned upon the family, and bade them prepare for the worst. Symptoms of hydrophobia made their appearance; paroxysm succeeded paroxysm; the art of medicine failed to bring relief, and this lovely lady sank in death. She still is seen in well-executed prints, which represent her standing on a globe, with one foot barely touching it—she herself in the act of ascending to "another, and a better world."

More than half a century ago my family had a most narrow escape from a rabid dog. The story is as follows:—A connexion of ours was on a visit at Walton Hall. He was a dog-fancier, and had purchased a young terrier from a person who assured him that it had come from the Isle of Skye, in Scotland. This, of course, made the dog more interesting than if it had been a mere Yorkshire whelp; so that it was much caressed by every individual, and it had the run of the house. One morning, as his master and myself were going along the highway on horseback, suddenly the pet terrier took off at full speed, in a straight line before us, and never swerved in the least, either to the right or to the left, so long as he kept in sight. "I'm sure that dog is mad," said I. "Impossible," replied his master; "we were all playing with him not two hours ago at breakfast." "No matter," said I, "he is stark mad, and we shall see no more of him to-day." I was right; and we returned without him. However, he made his appearance on the following morning, strong and healthy, to the infinite joy of his master. But I held to my first impression; and it was some time before I could persuade his master to let him be tied up. Seeing that I was determined, he at last consented; and forthwith the dog was secured in the stable by a new collar and chain. In the evening of that very day the terrier showed symptoms of hydrophobia. He flew at me every time that I opened the stable door. Then he would become exhausted, and lie down on the straw,—and then up again, and so on till he lay unable to rise;—and soon after this death closed the scene. So far for the Skye-terrier tragedy. The farce had soon to follow. My poor mother was dreadfully alarmed at what had just occurred. As every inmate of the house had been in the constant custom of playing with the dog, she imagined that mischief might be lurking somewhere. Its saliva might have fallen on a scar which would receive the poison; or, perhaps, some trifling abrasion might have been made by the tooth before the dog had shown symptoms of disease. No time was to be lost. Everybody must have heard of the wonderful Ormskirk medicine for the cure of hydrophobia. Our family farrier was in possession of the secret, and he always kept the medicine by him. We were all to be dosed—servants and everybody in the house. So he came and gave us the instructions, which were, that we must take the medicine fasting, on the following morning, and only eat a light collation for supper. Nothing else. A more nauseous antidote I had never tasted. Don Quixote's balsam of Fierabras, which made Sancho Panza so dreadfully sick at his stomach, was nothing to it. Some of the patients had no sooner taken it than the stomach rejected it immediately. My interior being tough and vigorous, I managed to keep it down. The medicine was bulky, and had to be taken in warm beer—it was the colour of brick-dust. The result was most satisfactory, and for this very good reason, because nobody had been bitten by the newly-arrived terrier from the island of Skye in North Britain. I had a beautiful little springing spaniel, the play-fellow of the terrier, and it was ordered to be hanged that same evening, for having been in bad company.

A Duke of Richmond, Governor of Canada, died raving mad in consequence of a bite in the cheek from his tame fox. When I was in that country, I went to a little rivulet, where the duke was first attacked by hydrophobia. The officer who accompanied me said, that when his Grace attempted to pass the stream, he could not do so. After successive but unavailing trials, he gave up the attempt, and he requested his brother officers not to consider him deficient in fortitude; but really the sight of the water gave him sensations which he could not account for, and positively he could not pass the rivulet. On the morning after, ere death had terminated his life, it was told me that he mistook for spectres a group of poplar trees, agitated by the breeze, near to the windows of his bedroom.

Both in the "Wanderings" and in the "Essays," I have spoken of the Indian wourali poison as a supposed cure (I say supposed, because it has never yet had a trial) for hydrophobia; but as the subject is one of vast importance, perhaps I shall not do amiss if I add here a few plain instructions. Supposing a person has been bitten by a mad dog. That person may, or may not, go mad; but should symptoms of disease break out, and a competent practitioner in medicine pronounce it to be undeniable hydrophobia, and the family wish to have the wourali tried, I beg attention to the following remarks:—Do not, I pray you, let any medicines be administered. The paroxysms will generally occur at intervals, during two or even three days, before the fatal catastrophe takes place. Lose no time in telegraphing for Dr Sibson, No. 40 Lower Brook Street, London; and for Charles Waterton, Walton Hall, near Wakefield, Yorkshire. We will promptly attend.

Let the patient be kept extremely quiet, and every gentle effort used to soothe him and to keep him in good-humour with himself;—but again I remark, *give no medicines.* Once Dr Sibson and myself were on the point of applying the wourali. A fine young collier had been bitten by a mad dog, at the village of Ardsley, near Wakefield. We had reached the Oakenshaw station, when information arrived that he had breathed his last. We went to see him in his winding sheet. His mother was inconsolable, and she wept bitterly as we entered the house. She seemed to find relief in talking of the disaster from its commencement to the termination; and when she had done, she began to cry again and sobbed most piteously. "His sufferings were long and terrible, and they went to the bottom of her heart. She had never left his bedside. He was the best of lads that ever mother had. She would never see his like again. His loss would carry her to the grave." And then she sobbed piteously, and looked at him as he lay, close by, in his winding sheet; and again she looked at him, and then sank into a chair crying bitterly, and lamenting her loss in accents that told her utter despair.

I have now done with dogs. The reader will perceive that I consider them to form one great family, which is capable of having produce of all sizes, shapes, and propensities, but entirely without pretension to reasoning faculties. That a dog, uneducated in his own native wilds, is nothing superior to the surrounding quadrupeds; but that, when he has been educated, is well taken care of, and is kindly treated, he becomes the servant, the defender, and the associate of man himself, the universally acknowledged lord of all created things.

THE FOX.

"*Vivitur rapto.*"

THIS animal is well known in England, where it is more prized and more persecuted than perhaps in any other country of the known world. Every child in the nursery is taught that the "grapes are sour;" and the nurse assures him that they are the fox's own words; whilst every henwife throughout the land is eternally plotting its destruction. Were it not, that in these populous districts we turn the bodily services of this, our last beast of chase, to good account, its bones would long ago have mouldered into dust with those of its formidable predecessors, the bear and the wolf; for, in fact, our farmers cannot tolerate the sight of Reynard, and the gamekeepers, those privileged scourges of animated nature, would at any time massacre his entire family.

The fox may be styled first cousin to the dog (for these two animals will breed together), and second cousin to the wolf; seeing that all three will generate hydrophobia, and communicate it far and wide—even to man himself, as I myself can testify by several personal investigations.

Common opinion seems to concur in attributing to the fox an extraordinary amount of cunning—"as cunning as a fox;" still, I am not prepared to concede this prerogative to the fox alone, *par excellence*, as I am acquainted with many other animals capable of disputing the prize with it. Perhaps, people are inclined to give it more credit for cunning than they do to other animals, on account of the singular formation of its head and face, which, according to our own notions of physiognomy, indicate the powers of cunning.

Be this as it may, so long as England lasts, the general opinion will be that the fox is a sly, cautious, prying, and calculating animal. However, endow it with whatever superior faculties you choose, it has no claim to rationality. Some of its actions are certainly so clever, that you feel quite inclined to raise it to a rank above that of its fellow-brutes; whilst others again are so absurd, and so devoid of anything like design, that you must absolutely change the favourable opinion which you have entertained of its abilities, and lower its intellect to that of the surrounding quadrupeds. When the good Jesuit Fathers at Stonyhurst saw that nothing short of severe prohibition could coerce me, when I was bent upon a ramble amongst the birds and beasts of the neighbourhood; and fearing, at the same time, that I should set a bad example to the scholars by transgressing the boundary prescribed to them by the rules of the college, they wisely determined to make me a privileged boy, by constituting me both rat and fox catcher—there being no hounds kept in the neighbourhood. Armed with this authority, I was always on the alert when scholastic duties allowed me a little relaxation; and I became the scourge of noted thieves, such as foumarts, stoats, weasels, and Hanoverian rats.

Once it so happened that Reynard (and possibly other members of his family) had made an excellent supper on an unprotected flock of fine young turkeys, about half-grown, the property of the establishment. Eight of these were missing the next morning. It seems that, after the four-footed thief had satisfied his call of hunger, he naturally bethought himself that his wife and children would like a bit of turkey for supper on the following night, so he buried five of the remaining victims in an open garden which was close by. Now, if the simpleton had covered them all over with the soil on the garden bed, I would have given him credit for superior sagacity; but he actually left one wing of each bird exposed to view; and it was this exposure which led to their discovery. I could not possibly mistake as to who had been the sexton, for, when I had disinterred them, each bird emitted that odour which a fox alone produces. Thus, whilst I admired the pains which Reynard had taken in covering up the turkeys, I condemned his folly and want of judgment in leaving the wings of his murdered prey exposed to the eyes of the whole world. An ass, in this case, would have shown just as much talent and cunning as Reynard himself had exhibited.

The fox is as shy by his nature as by necessity—choosing the stillness of the night to work in his nefarious calling. But on certain estates, where things are kept pretty quiet, he will venture to leave his hiding-place even at noon-day, and then play the mischief with whatever poultry comes within his reach.

I once imagined that I could be able to put bantam fowls upon a footing with the wild pheasants in the woods; so, when spring had set in, I turned two pairs of bantams to take their chance in the surrounding plantations. One of the hens made her nest in an adjoining meadow, and apparently she would have hatched a plentiful brood, if Reynard had not interfered to mar my interesting plan. One day, about the hour of noon, I myself, with my own eyes, saw the savage kill my bantam on its nest, and take her off in triumph. This happened before the park wall was finished—the completion of which for ever shuts out Reynard and all his pilfering family from good things which his late larder contains in such abundance.

Foxes bark like dogs, but in a somewhat subdued tone of voice, and in shorter accents. They will inhabit any part of a country, from the seashore to the woods and coppices in the interior. At Flamborough Head, the rocks are so precipitous, that you would wonder how even a fox could journey over them in safety to its hiding-place. I have found their young ones in the hollow of an inclined old oak; and sometimes in a dry spring, on the surface of the ground, where underwood and brambles invited the mother to form her nursery. But the usual haunts of foxes, either for parturition or protection, are far away underground in deep and winding holes; commonly known by the name of fox-earths. Sometimes the badger will frequent the subterraneous retreats, not only for temporary concealment, but also for a permanent abode: and this without disturbing Reynard's family. In a like manner, we see amongst our own species people of very opposite characters inhabiting the same floor of a lodging-house.

From time immemorial our fox-earths, here at Walton Hall, have been famous in the annals of vulpine venary. They had been made under the roots of some fine old oak trees, on the side of a verdant hill rising gently from the lake. In early youth I would often mount into one of these ancient sons of the forest on a moonlight night to watch the foxes at their vesper pastime. Thus seated aloft. I could see the cubs as playful as kittens, catching each other by their brushes, now standing on three legs, as if in the act of listening, then performing somersets, sometimes snarling, sometimes barking; and often playing at a kind of hide-and-seek, as we used to do when I was a lad at school. On one occasion, whilst I was thus perched aloft, old Reynard brought a fine pike, weighing, I should say, full three pounds, to the mouth of the hole, and instantly it was worried by the brood.

At the final breaking up of these ancient fox-earths, just a few months before the park wall was finished, I had directed the gamekeeper to stop the mouths at his usual hour of midnight, knowing that Reynard and all his family would be from home in quest of plunder. At sunrise, we commenced the work of digging; and in the course of the day we came upon two full-grown badgers, which I kept for a few hours, and then turned loose again upon the world at large, there to seek another place of residence.

Foxes generally bring forth in early spring—but I have known exceptions to this rule; and they produce from four to five at one annual litter. 'Tis well for us they are not so prolific as the Hanoverian rat. Did they breed as fast as this thief, and as many at a time, whole flocks of sheep would not suffice to meet their wants. Young foxes are well advanced in size by the end of June. The appearance every now and then of a lean and scabby fox may often be attributed to the dangerous practice of gamekeepers placing poisoned eggs, and pieces of poisoned meat, to destroy what they usually denominate running and flying "varment." All lords of manors and occupiers of land ought to prohibit peremptorily this never-to-be-sufficiently condemned practice of putting poisoned food in hedge bottoms and in rabbit runs. When rats are to be destroyed, the bait may be thrust deeply into their holes, and very few pieces of it at one time. I am of opinion that there are not three distinct species of foxes in Great Britain. Naturalists who have written on the nature and habits of the fox, can produce nothing but a difference in size to support their argument that we have more species than one. I consider the difference in size of foxes to be attributed either to climate or to their food, or most probably to both. These animals all emit the same offensive odour; their colour varies occasionally but a trifle; whilst they have a common tone of voice, show the same propensities, and exercise the same economy. Depend upon it, there is only one species of fox in our country.

Thus far have I introduced to the reader's notice this shy little quadruped, in order to show his predatory inclinations; which, although destructive of the farmer's property to a certain extent, may easily be forgiven on account of other qualities, shortly to be exhibited. I had almost forgot to remark that the cubs of foxes are blind for a while after their birth, like the whelps of dogs. The fox has survived the bear, the boar, and the wolf in these realms. In fact, he may now be styled the last remaining beast of prey amongst us. Although possessing no amiability of disposition, nor of a nature to mix in company with other animals—such, for example, as the hare and the deer, during the time that the sun is above the horizon—still the fox runs no risk of being exterminated so long as our rising generation is fond of rural sports. We may say of it, what the prince in days of old said of Jack Falstaff, we can "better spare a better man." We can better tolerate the annual loss of game and poultry, than send the perpetrator into everlasting exile. With occasional reprimands from shepherds, farmers, and pheasant-fanciers, I trust that Reynard will always be a cherished, valuable, and interesting little fellow with English country gentlemen; and that he will ever command their patronage, and be the theme of convivial conversation at the festive board for generations yet to come, when the hand which is writing this shall hold the pen no longer. Yes—although it will inevitably be Reynard's fate to find protection to-day, persecution to-morrow, now hated by henwives, now cursed by gamekeepers—his family will always manage to keep its ground; unless more railways, tramroads, long chimneys, soaperies, and vitriol works shall swarm through this province as lice formerly swarmed through the land of Egypt. Then will our woods, which in many parts already feel the dire effects of smoke, perish outright; and every fox, with every fox's wife and cubs, will quit their earths for good and all, and start in quest of other quarters.

Here I take my leave of Reynard, so far as regards his life and manners;—but I have not done with him. The pleasing part of his adventures has yet to come.

I now wish my reader to consider him in the shape of a Janus-bifrons, that is, an animal with two faces—one of which will be in perpetual menace to put farmers and henwives on their guard, whilst the other will exhibit smiles and animation, to assure our lovers of the chase that he will always be ready, during the proper season, to afford them facilities for horsemanship, and many a long run of manly and healthy exercise,—not to be found with so much splendour, and so many advantages, in any other portion of the globe.

Thus may Great Britain boast, that for many good and weighty reasons she cherishes an apparently insignificant little quadruped, which, at the same time that it will worry all her unprotected poultry, from the majestic swan to the little bantam, can afford exercise and amusement to all ranks of people—aye, even to ladies of high degree and eminent endowments.

I well remember the day when half a dozen ladies, all dressed in scarlet habits and mounted on prancing steeds, would join the hunt, and show what female courage could effect. More than once, in the day's run, have I myself dismounted, and torn away the opposing hedge-stake from before them, to save mishap.

In this last character of affording amusement, Reynard is absolutely invaluable to those who duly estimate a warlike breed of horses, and resolute riders, who, in the field of Nimrod, commence a career which forms them for after deeds of intrepidity and patriotism in the warlike ranks of Mars. Moreover, the chase of Reynard restores health to convalescents, gives pastime to the gentry, and exercise to the multitude in every direction.

It is generally allowed that two armies, drawn up in battle array, present a splendid and a grand appearance. But when we reflect that they are assembled on the plains of death—ready, at a moment's warning, to commence the work of mutual slaughter—oh! then it is that sorrow fills the pitying breast; and there is no charm left in gorgeous uniforms, and floating banners, as the hostile forces move along to battle.

But, in a British fox-hunt, sorrow never shews its face. When the hour for pastime has arrived, we behold, assembled at the cover, gentlemen, with here and there a lovely lady clad in scarlet, and mounted on steeds, which for breed and beauty are unparalleled in the annals of hunting. The hounds, too, may rival those of Actæon himself, who, poor fellow, made the most unfortunate mistake of riding up to the fountain whilst Diana was in the bath. For this unintentional act on his part, the angry goddess changed him into a stag, and he was worried unknowingly by his own hounds. The names of these dogs were much more sonorous than those which we Englishmen give to our own dogs now-a-days. There was in Actæon's pack, "Pamphagus, et Dorceus, et Oribasus, Arcades omnes, Nebrophonosque valens, et trux cum Lœlape Theron."

But to our subject. The whin-cover is drawn in scientific style. Up starts Reynard, with brush as clean as ladies' gloves, and fur in supreme perfection. "Tally ho!—gone away, gone away," resounds from hill to hill. Following on his track, swiftly sweeps the pack, with horse and foot, in one tremendous rush; as though poor Charley Stuart had risen again, and they were glad to see him. By the way, he could not have been worse than any of the four Georges, if we may believe the eloquent Mr Thackeray. But this means nothing;—let us attend to the hunt. See there! Sir Anthony is down in the mire, and his horse has rolled over him. Never mind. The horse has merely broken its neck, and the baronet has lost his right ear by a kick from the dying steed. Sir Anthony will soon be sound again, if his surgeon only bleeds him well;—and as for the horse, there are more in the stable ready to take the field. Dash on, my boys—grand and lovely is the sylvan scenery!

"Before us, trees unnumber'd rise,
Beautiful in various dyes:
The gloomy pine,—the poplar blue,
The yellow beech,—the sable yew,
The slender fir, that taper grows,
The sturdy oak, with broad spread boughs."

Behold to the left—a whipper-in is bogged, up to the middle in a quagmire!—whilst the young squire, by one desperate leap, has barely escaped a similar predicament. And farther onwards, on yon rising slope, his reverence the Vicar has left behind him a portion of his coat in the hawthorn hedge, and has just this moment come to the ground, head over heels, from the neck of his plunging horse. But, luckily, he is up again on his unorthodox legs, none the worse for his tumble. The horse has galloped away! No matter—some of the company will stop it, and restore it to the undaunted rider. Oh, what noble sport!

> "Nimrod's courage is a treasure,
> Hunting is the Briton's pleasure;
> Rich the treasure,—sweet the pleasure,
> Sweet is pleasure after pain."

The chase grows hotter;—nothing can exceed the excitement. Farmers leave their ploughs and horses, shooters quit their stubble fields, and every son of Ceres is on the move. All run helter-skelter to enjoy a treat of fox-hunting. Push on, my boys, but at the same time remember what the horse formerly said to its rider,—"Up the hill, push me not; down the hill, spur me not; on level ground, spare me not." The hounds are in full cry;—what delicious music in the ears of Nimrod! But suddenly the cries are heard no more. The sportsmen, as is often the case, have pressed too keenly on the pack, and lo!—the dogs are at fault. No longer can the scent be touched upon. Reynard, whose fate seemed sealed beyond all doubt, is saved at last from death. Sly little fellow!—taking advantage of the momentary pause, he has just had time to squeeze himself into one of his friendly fastnesses hard by,—too strait for even terriers to enter, and too rocky to admit of the operations of the spade and axe. There he sets both hounds and huntsmen at defiance. Other covers are drawn, but no fox can be found. It is now time to give up the chase and disperse; for see, the wintry sun is nearly at its setting, and the pack is far from its kennel. The sportsmen retire from the field—each individual having had a day of rational amusement, with a bountiful stock of fresh air, and an increase of spirits for their different callings;—so that, in fact, the fox has been to them the best of all physicians.

But this manly and exhilarating sport is only suited to Great Britain. Foreign nations have their pastimes of another sort, which we perhaps may undervalue. I think that Englishmen showed bad taste when they introduced fox-hunting into the Roman States. Nothing could exceed the astonishment of the Italians when they witnessed the arrival of our hounds and horses. They could not by any chance be made to comprehend the meaning of so much expense, parade, and ostentation; and the rustics of the Campagna could not believe the testimony of their own eyes, when they beheld men in scarlet dresses, first searching for a paltry fox, and then pursuing it over their rough and swampy country, at the risk of limb and life. A few of these simple rustics, imagining that there must be something very agreeable to Englishmen in the flesh of a fox, or valuable to them in its fur, bethought themselves that the present opportunity was a good one to put a little money into their own pockets, and to benefit the neighbourhood by thinning the noxious vermin. Wherefore, without the aid of hounds and horses, these poor men soon captured a brace of foxes, which they carried to the new hunting establishment, and claimed a small reward for their well-timed services. Let us fancy for a moment the dismal faces of the master and his huntsman, when the two foxes were taken dead out of the bag, and placed at their feet. They raved and swore in such a manner that the poor countrymen, without waiting for the expected reward, took to their heels as fast as they could go, and deemed themselves fortunate in being able to escape with a sound skin. Ever since this scene occurred, I can well conceive the horror and contempt in which the Italian boors hold our scarlet-coated gentlemen, whom they believe to have come from the far North to teach them a new mode of thinning foxes, at the risk of life, by rashness and by falls from horseback. Whilst we ourselves were in Rome, the master of the hunt took a random leap, and broke his neck on the spot.

Some five and fifty years ago, I was at a fox-hunt which I shall never forget. We threw off with customary pomp and zeal, but ended with a farce ludicrous in the extreme. It so affected the noble owner of the hounds, that he lost all temper, and made grimaces as though he had been stung by pismires. In the afternoon, after a good run, we found ourselves on the extensive line of covers, which stretch from Newmillerdam up to Woolley Edge, through Kings Wood and Bush Cliff. The fox was obstinate, and would not break cover, but stuck closely to the woods at Newmillerdam, nor could the united discord (if I may be allowed the expression) of hounds and horns, and merry men on foot, cause him to quit his chosen quarters More than an hour was spent in chasing him to and fro, but without success. Now he was on the edge of the wood—then back again to its deepest recesses, and so on—puzzling both dog and man. I happened to be resting quietly on my horse, in one of the rides, when old Reynard, panting and bewildered, with his once handsome brush now wet and dirty, and his tongue lolling out of his mouth, wished to cross the path; but on seeing me, he stopped short, and stared me full in the face. "Poor little fellow," said I to him, "thy fate is sealed!—thy strength has left thee; in a few minutes more, thou wilt be torn in pieces." He then shrunk back again into the wood, as if to try another chance for life. The noble lord now rode up to the spot where I was waiting, and said, that as they could not force the fox into the open fields, he had made up his mind to have it killed in cover, and that he had given the necessary orders—which, however, were not fulfilled, according to my lord's intention, as you shall shortly learn. We were about two hundred yards from the king's highway, when a butcher, who was going on it, thought that he might tarry for a while and enjoy the sport. So he and his dog got over the hedge, and came softly up to where we had stationed ourselves. At that unlucky moment Reynard made his appearance, so completely exhausted that I was convinced his "last day's run was over." In a moment the butcher's dog, a gaunt and over-fattened cur without a tail, flew at poor Reynard, and killed him outright—the hounds coming up just in time to snarl and quarrel for his bleeding carcass, which they devoured before the huntsman had made his appearance. Thus ended this day's sport; most certainly, its termination was humiliating. A greasy butcher's dog, the lowest of its race, came up just in the nick of time to give the death-blow—aye, to accomplish which, the best bred hounds in Christendom had spent the long-live day.

> "Ea turba, cupidine prædæ,
> Per rupes, scopulosque, adituque carentia saxa,
> Quà via difficilis, quáque est via nulla, feruntur."

But so it sometimes happens. In our own ranks we have occurrences most sad and mortifying. Thus Charles XII., the courageous King of Sweden, fell by an unknown hand.

> "His fall was destined to a foreign strand,
> A petty fortress, and a dubious hand."

And Nelson, too, the bravest of the brave, was slain by an ignoble musket-ball. And, latterly, no one will ever know what fatal hand deprived us of our valiant General Cathcart, in the Crimean desolating conflict. "*Sic transit gloria mundi.*" If our Nimrod-earl had carried in his hand a battle-axe and not a hunting-whip, I saw by his ungovernable rage at what had happened that nothing could have saved the butcher's dog (which, with its master, had regained in haste the king's highway) from utter extermination.

I am, and always have been, a staunch advocate for protecting the breed of foxes, and I trust that our sportsmen will allow, that when they draw my covers they very seldom meet with disappointment. I consider that the diversion of fox-hunting does signal service to the nation at large. The very nature of it precludes the commission of those disorders which too often prevail in other amusements. Who is there, in these days, that can point to any recreation of a public nature free from crime—aye, from systematic crime? Horse-racing, to wit, where we observe knavery and cheating in superlative refinement. How many of the craft are virtually robbed before the racehorse leaves the stable? how many of these noble animals have actually been poisoned by designing bettors? What bolts, and locks, and vigils are required to guard against and shut out mischief of the blackest dye? And when the day of starting comes, say what hordes of pickpockets swarm in every quarter! These are watched by policemen, whose main hope of preferment depends upon the number of rascals they detect, and upon the valour which they show in capturing their prey. No thieves—no good doings for policemen. A sorry state of things, forsooth! and lately rendered worse by what is called a rural police, useless and expensive. Our thieves here in Yorkshire are quite knowing enough to dog the policeman into one village, and then to plunder us in another. Not so with fox-hunting, the very nature of which sets gambling and all its pernicious tricks at absolute defiance. It is not confined to one particular spot of ground, but, like the dancers of our poet Gray, is "now pursuing, now retreating"—now to the north, now to the east, or south, or west—just as the quarry takes it into its head to fly; and these desultory movements will never suit the tactics of a gambler or of a pickpocket. There is nothing stationary in the boundless realms of Nimrod. No sooner is the word of command given by the huntsman for the pack to enter cover, than the whole multitude of sportsmen is on the alert, not one of them having the least conception where the chase will end, so that no public-house, as in a horse-race, will have prepared expressly its adulterated ale for thirsty callers, as these may be many miles off during the whole course of the day. Nobody, be he ever so calculating a knave, will have the opportunity of betting seriously upon any particular horse, as it cannot possibly be watched with due attention. It may suddenly get its neck broken, and be heard of no more, as I myself once witnessed. Its rider may be thrown, or may not be disposed to continue longer in the chase. These, and many other incidents, are perpetually occurring, and militate decidedly against gambling in any of its odious phases. In fine, they are an everlasting bar to the entrance of prowling knaves and calculating thieves into our delightful, healthful, peaceful, and national exercise, well known under the usual denomination of fox-hunting.

Long may Great Britain boast of her useful pastime, which is unique of its kind, free from knaves, free from pickpockets, free from the necessity of a police attendance, free from blacklegs—in a word, free from everything that may cause a man to say he repents of having joined in the chase, or to confess that he has not found himself better in health and spirits after the day's sport was over than before it began. It is my wish, as I have already declared—my wish, my ardent wish, to cherish and protect the breed of foxes: not that I deny, however, a man, once or twice in his life, may be reduced to the repugnant necessity of committing vulpicide or fox-murder. This has been my case, although the act was so imperative in its circumstances that it did not bring with it the remorse of conscience which it would have done under different feelings; for, be it known that, in the eyes of those who love the chase, there can hardly be a more heinous crime than that of wilfully and maliciously assassinating a fox. The base, unpatriotic deed, would doom the remorseless perpetrator of it to everlasting exile in that region, known to all honourable Englishmen under the name of "Coventry."

The reader shall now have a brief unvarnished account of what took place here some four or five years ago. Justice to myself, and to the pets which have the range of my park, forced me to become the executioner of the largest and sleekest fox that perhaps was ever seen in these Vandal regions of Yorkshire's West Riding district. We have a park wall so high, that neither fox nor hound can surmount it without assistance. There had been a snow-storm in the morning; and, as the keeper was going his rounds, he observed a sheep-bar, commonly so called, reared against the wall. Fearing mischief from without, he requested the farmer to remove it during the day, lest poachers or "varment" might take advantage of its position, and thus find a commodious way over the wall into the preserve, not of game only, but of many other animals. The farmer said he would attend to the bar, but, somehow or other, he forgot to do so, and thus the sheep, or stack-bar, remained just where it had been placed. Although the night was cold and rainy, Reynard found himself obliged to turn out of his den, and to cater for his numerous family. Coming up to the bar in question, he mounted on it, and thence sprang on to the wall itself. Seeing Paradise below him, he must, no doubt, have longed vehemently to partake of the dainties which he was sure it contained. In fact, having lost his usual caution when out a prowling, he gave way to the temptation, and took a desperate leap into the park, which consists of two hundred and sixty acres. All his movements were clearly visible the next morning, by the prints of his feet in the snow, which had fallen in the early part of the night. Here, then, Reynard, by his own rashness, became a prisoner for the remainder of his days—a voluntary exile into a little St Helena, where he lived and died.

A few years before this transgression on the part of incautious Reynard, my friend, Mr Carr, of Bunston Hill, near Gateshead, had made me a present of two very fine Egyptian geese. They were great beauties, and wonderfully admired by everybody who saw them. During the season of frost and snow, they were admitted into the saddle-room at night, for the sake of warmth. Sometimes, however, they failed to make their appearance at the door: but this did not cause us any apprehension, as we knew that they were safe from harm. On the morning after Reynard had made his desperate descent into our elysium, one of the geese was missing, the keeper having just sounded the alarm that there was a fox in the park. On search being made, the remains of the Egyptian goose were found at the foot of an aged sycamore tree; whilst all around, the prints of a fox's feet were visible in the snow. By their irregularity, we conjectured that Reynard had had tough work ere he mastered the goose. There could be no doubt whatever but that he had been exercising his vicious calling, and had made a dainty meal upon the luckless bird. We were in a dilemma of no ordinary kind. The state of the weather was too frosty to suit our sportsmen. Neither dared we to open the park doors, lest proscribed enemies, such as rabbits, &c., should gain admittance, and thus cause a second evil as bad as the first. Nor could Reynard be allowed to enjoy any longer his present position, as the remaining Egyptian goose, fowls, ducks, and game, must inevitably have fallen a sacrifice to his unbounded voracity. Wherefore, running the risk of our fox-hunters' high displeasure, and quite prepared to be considered by that part of the Nimrod community (which sometimes does not see things in their true light), as a modern Vandal, I signed old Reynard's death-warrant, to be put in execution without loss of time. Whereupon, a spring-gun, by way of scaffold, with a heavy charge of buckshot (to answer the purpose of a rope), was put down with studied science, in order that a stop might be put to the intruder's career for ever. As we read in the famous ballad of Chevy-Chase—

> "Against Sir Hugh Montgomerie,
> So right the shaft was set,
> The gray-goose wing, that was thereon,
> In his heart's blood was wet."

So was our implement of death pointed at Sir Reynard. A little before two o'clock on the following morning, a tremendous explosion announced that the gun had gone off. Reynard, in his rounds, having come in contact with the wire in ambush, fell dead as Mark Antony, the contents of the gun having passed quite through his heart. Thus the unfortunate brute paid the final penalty for his unnecessary intrusion into the realm of prohibition.

Although the longing of the fox after poultry cannot be disputed, still, when the Hunt is taken into consideration, his peccadillos are forgotten, and he becomes a valuable animal to us. Farmers and henwives have always an opportunity of protecting their roosts, and of securing their poultry from Reynard's grasp, at a trifling expense. But now-a-days they have to guard against certain bipeds, far more destructive than the fox and all its family put together. Not a fowl-roost nor a goose-house in all the West Riding of Yorkshire can escape the plundering attacks of these midnight villains. Too idle to work, they resort to the alehouse, whence they emerge and shape their course to the different farmyards. If they find the door of the henhouse too strong, they mount aloft, and obtain an entrance through the roof. Whole roosts are cleared in this manner, whilst the thieves themselves are rarely brought to justice. Were it known, ten miles from our own village, that it possessed a fowl-department of easy and of safe access, that fowl-department would certainly be robbed before the dawn of day.

The Hunt has it always in its power to make staunch friends of the farmers, by remunerating them for losses in poultry *really* sustained, and where the fox alone has been the plunderer. Our gamekeepers, too, partaking of an annual good dinner provided by the members of the Hunt, in case the pack consists of what we denominate "confederate hounds," and receiving on the same day their perquisite for stopping the earths on the midnight previous to the hunting morning, and also a bonus for a find, as it is usually called, everything would then go on well and satisfactorily to all parties.

If I shall succeed in showing that the fox is a valuable quadruped to us, in a national point of view, I shall be amply repaid for my trouble, and perfectly satisfied. Indeed, it has been for this end alone that I have taken up the pen on this subject. Nobody can be more convinced than I am of the fox's worthlessness, when contemplated as a little skulking, pilfering, and rapacious animal—the farmer's detestation, and the henwife's bane. But when, on the other hand, I behold him in full powers to afford amusement and exercise to all ranks of people, 'tis then that the little fellow becomes dear to me, and shall always command my protection and my good word.

The fox requires no particular attention at our hands by way of keeping up the breed. Only let us prevent poisoned food and traps from being placed in its runs, and nothing more will be asked from us. Its own peculiar habits, its noctural industry, and its uncommon knack of avoiding danger, will always enable it to support itself in food, and to provide handsomely for a numerous family, wherever it may be. To be sure, young and ill-natured farmers will possibly exclaim that the trampling of the horses in the rising cornfields must always occasion a certain amount of damage. But experience shows that this is not the case; and the making of gaps in the hedges is unworthy of notice, as they consist of dead wood, and can easily be repaired soon as the arrival of spring shall announce the cessation of rural amusements in the field.

But my pen or my tongue are ever on the move when hunting is the topic. I fancy that I already tire the too indulgent reader. Wherefore, I will bid him farewell; and should he chance to be one of old Nimrod's genuine breed, may he enjoy good health, good hounds, good horses, and good temper!

THE WEASEL.

"Una ministrarum, mediâ de plebe Galanthis
Flava comas aderat, faciendis strenua jussis."—OVID.

GALANTHIS, in days of yore, was lady's-maid to Alcmena, the mother of Hercules. She cheated Juno, and Juno in revenge changed her into a weasel. Let us look into the real habits of this interesting little quadruped, and try to place them before the reader in so clear a point of view that he may be able to judge for himself whether its good qualities or its bad ones have the greater claim to our consideration and interference.

Our zoology calls for the labour of a Hercules to clear away its collected impurities. Authors of former days have sent down to us some of the most extravagant opinions concerning quadrupeds that can possibly be imagined; whilst divers writers of the present time are so little versed in the real habits of these animals, as not to know whether or not such opinions ought to be condemned and rejected as totally unfit for a work of merit. Booksellers may engage a person to write for them; but, depend upon it, his zoological lucubrations will be a mere *ignis fatuus*, unless he shall have studied previously, in the field of nature, the habits of those animals which he has undertaken to describe. And where are we to find a naturalist, now-a-days, who has not had too much recourse to books?—books which are replete with errors and absurdities, merely for want of proper investigation on the part of those who have written them. Many of the weasel tribe have the power of emitting a very disagreeable odour from the posterior part of the body. We are gravely informed in the "American Biography of Birds," that the polecat has this faculty "given him by nature as a defence." And, pray, at what old granny's fireside in the United States has the writer of this picked up such an important piece of information? How comes the polecat to be aware that the emitted contents of a gland,* inoffensive to itself, should be offensive to all its pursuers? I say, *inoffensive* to itself, because I cannot believe that our Creator would condemn an unoffending animal to produce its own punishment by means of a smell which never leaves it—whether it roam up and down as a solitary animal, or whether it have a partner and a family of young ones to provide for. Although this odour from individuals of the weasel tribe is very distressing to our own nasal sensibilities, it by no means follows that the scent should have a similar effect upon those of all other animals. For example, the smell from purulent carrion is certainly very disagreeable to us bipeds; still it cannot prove so to the dog—for, in lieu of avoiding it, this quadruped never loses an opportunity of rolling in it. If the polecat has had the fetid gland "given him by nature as a defence," then must nature have given a sweet one to the civet for its destruction; seeing that, whilst we shun the first on account of its insupportable stench, we pursue and kill the last in order to obtain its perfume. Now, as both these animals are of the same family, I cannot help remarking, with Sterne, in the case of "the poor negro girl," that nature has put one of this tribe sadly over the head of the other, if the North American theory be sound. Again, if nature has given this abominable stench to many of the polecat tribe "as a defence," she has cruelly neglected our former invader, the Hanoverian rat. The polecat is not much exposed to destruction, as its movements are chiefly nocturnal, and, in general, it is apt to shun the haunts of men. But our Hanoverian, having a most inordinate appetite for the good things of this world, is ever on the stir, in the very midst of its enemies, to satisfy the cravings of its capacious stomach; and it will cater for itself the four-and-twenty hours throughout. Hence your housekeeper complains that it will try its tooth on primest Stilton in broad daylight, and that it will have its whiskers in the creambowl, even whilst the dairymaid is gone up-stairs with butter for the breakfast-table. Still my darling Hanoverian has nothing but an ordinary set of teeth wherewith to protect itself, although exposed to ten times more danger than the foumart, which last has a fetid gland given it by nature "as a defence"—in addition, I may add, to vast muscular strength, and to two full rows of sharp and well-assorted teeth. This being the case, let us reject the Transatlantic theory as a thing of emptiness; and if we are called upon for an opinion as to the real uses of the fetid gland in polecats, let us frankly own that we have it not in our power to give anything satisfactory on the subject.

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* I use gland in the singular number, for the sake of brevity, but the animal has two glands.

I am a friend to the weasel, and to its congener, the polecat, although I know that they will commit depredations on game whenever an opportunity shall occur. Still, I consider that the havoc which they make amongst mice and rats far overbalances their transgressions against the game laws. About two years ago, the coachman brought me a fine polecat alive in a box-trap, which we occasionally set to arrest stranger cats when in pursuit of forbidden food. Feeling no inclination to take its life, I ordered the door of the trap to be opened; and as the prisoner went its way into the wide world again, I saw, by the marks of astonishment which appeared upon the man's countenance, that I had evidently done an evil deed. The country gentleman, the farmer, and the gardener, are particularly interested in having a true account of the weasel, in order that they may ascertain how far it is their interest to protect it, or to adopt measures for its destruction. The weasel is certainly capable of destroying our common game, such as hares, pheasants, and partridges; for the herculean formation of his fore parts enables him to overcome animals vastly his superior in size. His attack upon the hare and rabbit is always uniform and decisive; he fixes his teeth into the neck of these animals, just behind the ear, and death follows the bite in a very few minutes.

Some two or three months ago, I heard the squeal of a rabbit whilst I was working in the flower-garden; and on arriving at the place whence it proceeded, I found the keeper there before me, with a fine old rabbit in his hand. He had seen the weasel on the rabbit's back, as he was proceeding down the hill; and he had scarcely rescued it from the grasp of its destroyer ere it died in his hand. I took out my penknife, and I. dissected the death-wound, which was just under the ear. There was no laceration to be seen. Two small punctures merely appeared, as though they had been done with the point of a pin; and they were surrounded by a spot of extravasated blood about the size of a sixpence.

The rabbit is what may be termed short-winded, and is easily run down; whilst, on the contrary, the hare is known to afford a long chase; hence, the rabbit has not so good a chance as the hare of escaping from the weasel.

Individuals of the weasel tribe pursue their prey by the scent; but cats trust to their eye, and pounce on their quarry at a single bound.

On a summer's evening, in the year 1815, I went over with my air-gun to my neighbour, Sir William Pilkington, in order to thin his abundant crop of rabbits; and I sat me down on a lonely bank, within thirty yards of a plantation where they had a strong settlement. A full-grown rabbit soon made its appearance. It took a circuit of nearly ten paces, and re-entered the plantation. Scarcely had it disappeared from view, when a weasel came out upon its track, and followed scent with the sagacity of a hound. The rabbit soon came out of the wood again, in violent agitation, and quickly returned to cover. Out came the weasel a second time, and followed up the track with surprising assiduity. The rabbit broke cover once more, but it was for the last time; for scarcely had it proceeded a dozen yards ere I saw that all was over. It stopped short and panted for breath, as though its heart would have burst through its ribs; and then it began to squeal most piteously. It never took another step to save its life, but sat down on the grass, still continuing its wailing. The weasel bolted from the bushes, and jumped upon the rabbit's back, inflicting a death-wound on its prey by biting it just behind the ear. I was sitting quite still at the time, and could easily have despatched either the rabbit or the weasel, but I did not interfere until the affair was concluded, and then I took the rabbit for my share, and I allowed the weasel to go in search of another supper, when and where it might think fit.

This quadruped, as I have already stated, will plunder the nests of pheasants and of partridges; and it must often surprise and kill many a Hanoverian rat, whilst the latter is going on the same noxious errand as itself. But I find it no easy matter to watch a bird's nest in the grass, so as to get a sight of the plunderer; indeed, I cannot say that I ever saw a weasel in the act of stealing eggs.

One morning in September last, the gardener heard a rustling amongst some cabbages in an orchard, and on arriving cautiously at the place, he saw a weasel, and he managed to get his foot upon it and to kill it, whilst it was in close contact with a favourite sheldrake. He brought them both to me. Upon examining the bird, I found that the weasel had fixed its teeth into its cheek; but the wound did not prove mortal, for the sheldrake is now in perfect health and vigour.

Notwithstanding these predatory acts on the part of the weasel, I would recommend the lord of the manor to pause awhile ere he condemn this bold little quadruped to extermination. I have yet something to say in its favour; but, before I undertake its defence, I must in fairness allow that certain parts of the farmer's property, at times, are not exempt from the rapacious attacks of the weasel.

Poultry—the farmer's pride and his wife's delight—is undoubtedly exposed to have its numbers thinned by this animal. Still, when we reflect that fowls of all descriptions stray through fields haunted by the weasel, with scarcely any decrease of their numbers, we may safely draw the conclusion that the weasel does not at all times make an attempt upon fowls which are within its reach. Last spring, my rumpless fowl, mentioned in these Essays, was killed by a weasel in broad daylight; and I may add an instance of a farmer's pigeon-cot being in jeopardy by a three weeks' visit from the weasel. About a year ago, my worthy tenant, Mr Wordsworth, of Walton village, remarked that the interior of his pigeon-cot was every now and then in commotion. I observed to him, that, as amongst other English delicacies, the Hanoverian rats are known to be very fond of young pigeons, it was possible that they might have put his pigeon-cot under a contribution. But he thought otherwise; and as his head man had seen an animal from time to time near the place, which, by the length and colour, he took to be a weasel, I was led to conclude that, in this case, the Hanoverians were not to blame; and so the gamekeeper was ordered to set the box-trap with a hen's egg in it by way of a decoy. A weasel was taken prisoner in due course of time; and being in great beauty, I transferred it to the Museum, where it remains at present.

These are heavy charges, heavy enough to put the weasel upon an uneasy footing with the country gentleman and the farmer's wife, were it not that its many good offices rectify the occasional mistakes which it is apt to make in the farmyard and on the manor, when the ungovernable pressure of its stomach eggs it on to the loss of character, and perhaps of life to boot.

The weasel, like the wood-owl, is a great devourer of beetles; and it is known to make incessant war on the mole, the mouse, and the rat—the last two of which draw most extravagantly on the hard-earned profits of the husbandman. These vermin seem to constitute its general food, and we must allow that it arrests their increase by an activity and perseverance truly astonishing. It hunts for the beetle in the grass; it follows the mole through her subterraneous mazes; it drives the rats from the bottom of haystacks, and worries them in the corn-ricks, and never allows them either peace or quiet in the sewers and ditches where they take up their abode. That man only who has seen a weasel go into a corn-stack, can form a just idea of the horror which its approach causes to the Hanoverians collected there for safety and plunder. The whole stack is in commotion; whilst these destroyers of corn seem to be put to their last shifts, if you may judge by the extraordinary kind of whining which goes on amongst them, and by the attempts which they make to bolt from the invaded premises. No Irishman ever shunned the hated presence of Dutch William in the Emerald Isle with greater marks of horror than those which rats betray when a weasel comes unexpectedly amongst them. One only regrets that this stranger rat did not meet a hungry weasel on its first landing in our country; for, although the indigenous English black rat was known to be far too fond of self, still it was by no means so fierce and rapacious as the German newcomer—at least I have always heard my father say so; but I cannot state anything from actual experience, as the old English rat has entirely disappeared from these parts.

But, of all people in the land, our gardeners have most reason to protect the weasel. They have not one single word of complaint against it—not even for disturbing the soil of the flower-beds. Having no game to encourage, nor fowls to fatten, they may safely say to it, "Come hither, little benefactor, and take up thy abode amongst us. We will give shelter to thy young ones, and protection to thyself; and we shall be always glad to see thee." And fortunate, indeed, are those horticultural inclosures which can boast the presence of a weasel; for neither mouse, nor rat, nor mole, can carry on their projects with impunity whilst the weasel stands sentinel over the garden.

Ordinary, and of little cost, are the apartments required for it. A cart load of rough stones or of damaged bricks, heaped up in some sequestered corner, free from dogs, will be all that it wants for a safe retreat and a pleasant dwelling. Although the weasel generally hunts for food during the night, still it is by no means indolent in the daytime, if not harassed by dogs or terrified with the report of guns. When a warm and sunny morning invites you to sit down in some secluded spot, you can scarcely fail to have an interesting sight of the weasel. Whilst all is still around you, it may be seen coming out of a hole in the ground, with its head particularly erect at the time; and it starts and stops at intervals, as though it were afraid to advance. On these occasions it is often seen with a mouse in its mouth, or with a rat which it has surprised and brought out of its hiding-place in the hedge bottom. It will catch beetles with surprising agility, and as wrens, and robins, and hedge-sparrows hop from spray to spray on the lowly bush, just a few inches from the ground, it seizes them there, but does not begin to eat them until it has conveyed them to its place of retreat. I once saw a weasel run up an ash tree, and enter into a hole about ten feet from the ground. A poor starling had made her nest in it, and, as she stood wailing on the branch close by, the invader came out with a half-fledged young one in his mouth, and carried it off. The weasel is fond of old dry walls, and of banks along hedgerows, and it frequents small holes in grass fields remote from cover. I have known it to make its nest in a corn-stack, and on that occasion I counted five young ones in it. Five seems to be the general number; and you may see them, during the summer months, running at the edge of corn-fields, with two old ones in their company. From what has been said in this paper, the reader may judge for himself, and determine whether he will make war on the weasel or allow it to remain in peace around him. For my own part (as I have already observed), I offer it protection here; and I am prepared for the loss of a few hares, with the addition of a pheasant's nest or two, when I reflect that it is never-ceasing in its pursuit of the field-mouse, and that in it may be found the most efficacious barrier that we can oppose to the encroachments and increase of that insatiate and destructive animal—the stranger rat from Hanover.

THE VAMPIRE.*

"Non missura cutem, nisi plena cruoris hirudo."—Hor.

"This leech will suck the vein, until
From your heart's blood he gets his fill."

The vampire of India and that of South America I consider distinct species. I have never yet seen a bat from India with a membrane rising perpendicularly from the end of its nose; nor have I ever been able to learn that bats in India suck animals, though I have questioned many people on this subject. I could only find two species of bats in Guiana with a membrane rising from the nose. Both these kinds suck animals and eat fruit; while those bats without a membrane on the nose seem to live entirely upon fruit and insects, but chiefly insects. A gentleman, by name Walcott, from Barbadoes, lived high up the river Demerara. While I was passing a day or two at his house, the vampires sucked his son (a boy of about ten or eleven years old), some of his fowls, and his jackass. The youth showed me his forehead at daybreak: the wound was still bleeding apace, and I examined it with minute attention. The poor ass was doomed to be a prey to these sanguinary imps of night; he looked like misery steeped in vinegar. I saw, by the numerous sores on his body, and by his apparent debility, that he would soon sink under his afflictions. Mr Walcott told me that it was with the greatest difficulty he could keep a few fowls, on account of the smaller vampire, and that the larger kind were killing his poor ass by inches. It was the only quadruped he had brought up with him into the forest.

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* In order to complete this essay, one or two observations on the vampire have been added from the "Wanderings."—[Ed.]

For the space of eleven months, I slept alone in the loft of a woodcutter's abandoned house in the forest; and as there was free entrance and exit to the vampire, I had many a fine opportunity of paying attention to this nocturnal surgeon. He does not always live on blood. When the moon shone bright, and the fruit of the banana tree was ripe, I could see him approach and eat it. He would also bring into the loft from the forest a green round fruit, something like the wild guava, and about the size of a nutmeg. There was something also in the blossom of the lawarri-nut-tree, which was very grateful to him; for on coming up Waratilla Creek, in a moonlight night, I saw several vampires fluttering round the top of the lawarri-tree, and every now and then the blossoms which they had broken off fell into the water. They certainly did not drop off naturally, for on examining several of them, they appeared quite fresh and blooming. So I concluded the vampires pulled them from the tree, either to get at the incipient fruit, or to catch the insects which often take up their abode in flowers.

The vampire, in general, measures about twenty-six inches from wing to wing extended, though I once killed one which measured thirty-two inches. He frequents old abandoned houses and hollow trees; and sometimes a cluster of them may be seen in the forest hanging head downwards from the branch of a tree.

Although I was so long in Dutch Guiana, and visited the Orinoco and Cayenne, and ranged through part of the interior of Portuguese Guiana, still I could never find out how the vampires actually draw the blood; and, at this day, I am as ignorant of the real process as though I had never been in the vampire's country. I should not feel so mortified at my total failure in attempting the discovery, had I not made such diligent search after the vampire, and examined its haunts. Europeans may consider as fabulous the stories related of the vampire; but, for my own part, I must believe in its powers of sucking blood from living animals, as I have repeatedly seen both men and beasts which had been sucked, and, moreover, I have examined very minutely their bleeding wounds.

Some years ago I went to the river Paumaron with a Scotch gentleman, by name Tarbet. We hung our hammocks in the thatched loft of a planter's house. Next morning I heard this gentleman muttering in his hammock, and now and then letting fall an imprecation or two, just about the time he ought to have been saying his morning prayers. "What is the matter, sir?" said I, softly; "is there anything amiss?" "What 's the matter!" answered he, surlily; "why, the vampires have been sucking me to death." As soon as there was light enough, I went to his hammock, and saw it much stained with blood. "There!" said he, thrusting his foot out of the hammock, "see how these infernal imps have been drawing my life's blood." On examining his foot, I found the vampire had tapped his great toe; there was a wound somewhat less than that made by a leech; the blood was still oozing from it; I conjectured he might have lost from ten to twelve ounces of blood. Whilst examining it, I think I put him into a worse humour by remarking, that a European surgeon would not have been so generous as to have blooded him without making a charge. He looked up in my face, but did not say a word: I saw that he was of opinion that I had better have spared this piece of ill-timed levity.

Wishful of having it in my power to say that I had been sucked by the vampire, and not caring for the loss of ten or twelve ounces of blood, I frequently and designedly put myself in the way of trial. But the vampire seemed to take a personal dislike to me; and the provoking brute would refuse to give my claret one solitary trial, though he would tap the more favoured Indian's toe, in a hammock within a few yards of mine.

THE BAT.

The following observations on the bat were among Mr Waterton's notes:—

UNUSUAL APPEARANCE OF A BAT IN THE STREETS OF WAKEFIELD, YORKSHIRE.

The 2d of January 1848 had been very cold, with sleet falling on a thin coating of snow, which had lain on the ground for two days. On the night of the 2d of January the frost entirely went away; and the 3d of the same month was cloudy, and almost as warm as though it were summer. Just at noon, as I was passing down Kirkgate, a bat was flying in a small street which opens into Kirkgate. I stopped and looked at it for some time. It was very vigorous, and appeared to be in search of food, probably gnats.

Bat.—On the 21st of April 1849, we had fine sunny weather in the afternoon, although the preceding night had been one of intense frost. On this afternoon, about three o'clock, I saw a bat hawking for flies at the boathouse, and dipping his mouth to the water, apparently to take flies or gnats. After a while the bat appeared exhausted, and it alighted on a plank which was close to me. I took it in my hand, and then turned it loose, and again it hawked for flies. It came to the plank a second time, and I took it up, gave it its liberty, and it again hawked for flies, and continued to do so till I was called away, and then lost sight of it.

THE BROWN OR GRAY RAT.

Some few years after the fatal period of 1688, when our aristocracy, in defence of its ill-gotten goods, took upon itself to dispose of hereditary monarchy in a way which, if attempted now-a-days, would cause a considerable rise in the price of hemp, there arrived on the coast of England a ship from Germany freighted with a cargo of no ordinary importance. In it was a sovereign remedy for all manner of national grievances. Royal expenditure was to be mere moonshine, taxation as light as Camilla's footsteps, and the soul of man was to fly up to heaven its own way. But the poet says—

> ——" Dicique beatus
> Ante obitum nemo, supremaque funera debet;"

that is, we must not expect supreme happiness on our side of the grave. As a counterpoise to the promised felicity to be derived from this super-excellent German cargo, there was introduced, either by accident or by design, an article destined, at no far distant period, to put the sons of Mr Bull in mind of the verses which I have just quoted. This was no other than a little gray-coloured, short-legged animal, too insignificant, at the time the cargo was landed, to attract the slightest notice. It is known to naturalists sometimes by the name of the Norwegian, sometimes by that of the Hanoverian rat. Though I am not aware that there are any minutes in the zoological archives of this country, which point out to us the precise time at which this insatiate and mischievous little brute first appeared among us, still there is a tradition current in this part of the country, that it actually came over in the same ship which conveyed the new dynasty to these shores. My father, who was of the first order of field naturalists, was always positive on this point; and he maintained firmly that it did accompany the House of Hanover in its emigration from Germany to England. Be this as it may, it is certain that the stranger rat has now punished us severely for more than a century and a quarter. Its rapacity knows no bounds, while its increase is prodigious beyond all belief. But the most singular part of its history is, that it has nearly worried every individual of the original rat of Great Britain. So scarce have these last-mentioned animals become, that in all my life I have never seen but one single solitary specimen. It was sent, some years ago, to Nostell Priory in a cage from Bristol; and I received an invitation from Mr Arthur Strickland, who was on a visit there, to go and see it Whilst I was looking at the little native prisoner in its cage, I could not help exclaiming,—"Poor injured Briton! hard, indeed, has been the fate of thy family! in another generation, at farthest, it will probably sink down to the dust for ever!"

Vain would be an attempt to trace the progress of the stranger rat through England's wide domain, as the old people now alive can tell nothing of its coming amongst them. No part of the country is free from its baneful presence: the fold and the field, the street and the stable, the ground and the garret, all bear undoubted testimony to its ubiquity and to its forbidding habits. After dining on carrion in the filthiest sink, it will often manage to sup on the choicest dainties of the larder, where, like Celæno of old, "*vestigia fœda relinquit.*" We may now consider it saddled upon us for ever. Hercules himself, could he return to earth, would have his hands full were he to attempt to drive this harpy back again to Stymphalus. It were loss of time to dwell on its fecundity. Let anybody trace its movements in the cellar, the dairy, the outhouse, and the barn, and he will be able to form some notion of the number of hungry mouths which we have to fill. Nine or ten young ones at a time, twice or thrice during the year, are an enormous increase, and must naturally recall to our minds one of the many plagues which formerly desolated the fertile land of Egypt. In the summer months it will take off to the fields, and rear its young amongst the weeds which grow in the hedgerows; plundering, for their support, the birds' nests with a ferocity scarcely conceivable in so small an animal.

Man has invented various instruments for its destruction; and what with these, and with poison, added to the occasional assistance which he receives from his auxiliaries, the cat, the dog, the owl, the weasel, the ferret, and the foumart, he is enabled in some degree to thin its numbers, and to check its depredations. There are some localities, however, from which it may be effectually ousted, provided you go the right way to work. My own house, than which none in Great Britain can have suffered more from the plundering propensities of the Hanoverian rats, is now completely free from their unwelcome presence. On my return to it in 1813, they absolutely seemed to consider it their own property. They had gnawed through thirty-two doors; and many of the oaken window frames were irreparably injured by them. While I was in Guiana, a Dutch lady, named Vandenheuvil, had given me a young tiger-cat, which one of her negroes had taken that day in a coffee-field. It was the marjay, which, by the bye, Buffon considers untamable. I raised it with great care; and it grew so fond of me, that it would follow my steps like a dog. Nothing could surpass the dexterity with which this little feline favourite destroyed the rats on our reaching home. Towards the close of day it would ascend the staircase; and no sooner did a rat make its appearance from the casements, than it would spring at it with the velocity of an arrow, and never fail to seize it. In 1828, having got, by long experience, a tolerably good insight into the habits of this tormenting quadruped, and having found that it spoiled or pilfered everything within its reach, I finally resolved that it should look out for another place of residence. Wherefore I carefully searched for all its various entrance holes. These I effectually closed with stone and mortar. I then filled up all useless sewers, and paid great attention to the paving and renewing of those which were absolutely required; fixing at the same time, in either end of them, a cast-iron grate, movable at pleasure. The bottoms of all the outer doors were done with hoop-iron, and the pavement which goes round the house was relaid with particular care. By these precautions, I barred all access to these greedy intruders; and, as no rubbish or lumber is now allowed to remain in the different nooks and crannies commonly found near ancient dwellings, there is no place of shelter left to conceal any stray individual whose bowels may chance to yearn for one more repast on cheese or bacon. In the meantime, the cat and the owl meet with no obstructions while prowling for those which may still linger in the environs. The mice, too, seem to have taken the alarm. In a word, not a single mouse or rat is to be found in any part of the house, from the cellars to the attic stories. In case it were not convenient or practicable to adopt similar precautions to those already enumerated, I would suggest what follows:—Take a quantity of oatmeal that would fill a common-sized washhand-bason: add to this two pounds of coarse brown sugar, and one dessert spoonful of arsenic. Mix these ingredients *very well* together, and then put the composition into an earthen jar. From time to time place a table-spoonful of this in the runs which the rats frequent, taking care that it is out of the reach of innocuous animals. They will partake of it freely; and it will soon put an end to all their depredations.

Rats are fond of frequenting places where there are good doings; while their natural sagacity teaches them to retire in time from a falling house. This knack at taking care of self seems common both to man and brute. Hence the poet:—

"Donec eris felix, multos numerabis amicos;
Tempora si fuerint nubila, solus eris.

"When Fortune smiles, thy friends are many;
But if she frowns, thou hast not any."

Whilst the rats had all their own way here, they annoyed me beyond measure; and many a time have I wished the ship at Jericho, which first brought their ancestors to these shores. They had formed a run behind the plinth in my favourite sitting-room, and their clatter was unceasing. Having caught one of them in a box-trap, I dipped its hinder parts into warm tar, and then turned it loose behind the hollow plinth. The others, seeing it in this condition, and smelling the tar all along the run through which it had gone, thought it most prudent to take themselves off; and thus for some months after this experiment, I could sit and read in peace, free from the hated noise of rats. On removing the plinth at a subsequent period, we found that they had actually gnawed away the corner of a peculiarly hard-burnt brick, which had obstructed their thoroughfare.

The gray rats are said to destroy each other in places where they become too numerous for their food; but bad as they are, I will not add this to the catalogue of their misdemeanours. They can never be in such want of aliment as to do this; because instinct would teach them that where there is ingress to a place, there is also egress from it; and thus, when they began to be pinched for food, they would take off in a body, or disperse amongst the fields, and live upon the tender bark of trees, and upon birds, beetles, and other things which the adjacent ground would afford.

That they move from place to place in large bodies cannot well be disputed. A respectable farmer, by name John Mathewman, now living in this neighbourhood, has informed me that, as he was returning home one moonlight night, about eleven o'clock, he suddenly came upon a large drove of rats, near Sandal Three-houses. They were coming up a lane which opened upon the high road, and, as soon as they discovered him, they gave mouth in a general squeal. Those nearest to him rose on their hind-legs, and then the whole body separated, and scampered off in all directions. Probably these adventurers were on the look out that night for better quarters.

Rats will occasionally attempt to feed on individuals of the human species when they are asleep. In 1824, I went with that excellent American naturalist, Mr Titian Peale, down the Delaware, to the neighbourhood of Salem, in order to make researches in ornithology, and we procured good lodgings at a farmer's house. During the night I was disturbed by a movement in the straw mattress on which I lay, of a somewhat suspicious nature, but being exceedingly tired with our day's exertion, I fell asleep again till about half-past four, my usual hour of rising. At breakfast, "Madam," said I to the farmer's wife, "I could almost have fancied that there were rats in my mattress last night." "Very likely, sir," said she, with the greatest composure; and then she told me that the year before, whilst she was fast asleep in the bed which I had occupied, a rat began to eat into her shoulder. On saying this, she bared the place to let me have a view of it, and I distinctly saw the marks which the hungry rat had left. "Upon my word, madam," said I, "though I am not prone to make wry faces at a fair allowance of fleas or bugs, still I must own to you that I have not yet quite made up my mind to be devoured alive by rats; wherefore, if you have no objections, when our breakfast is finished we will go and take a peep into the interior of the mattress." On ripping it up, no rats were found, but out bounced seven or eight full-grown mice. The old lady smiled as they ran across the floor, and I thought I could read in her face that she considered I had raised a false alarm.

When I reflect on the numbers and the appetite of the Hanoverian rat, and put down to its account the many depredations which it is perpetually committing, I cannot bring my mind to show it the same good feeling which is extended in this park to the rest of animated nature. In truth, I consider its arrival in our country an event productive of much annoyance to the community at large; and, had I the power, I would send its whole stock, root and branch, back again to the country whence it came, seeing that we have gained nothing by letting it exterminate the original English rat.

ANECDOTE OF A COMBAT BETWIXT TWO HARES.

> "At last the two stout *hares* did meet
> Like *quarry* of great might—
> Like lions moved, they laid on load,
> And made a cruel fight."
>
> —*Chevy Chace.*

On Easter-Sunday, in the afternoon, as I was proceeding with my brother-in-law, Mr Carr, to look at a wild-duck's nest in an adjacent wood, we saw two hares fighting with inconceivable fury on the open ground, about a hundred and fifty yards distant from us. They stood on their hinder legs like two bull-dogs resolutely bent on destruction. Having watched them for about a quarter of an hour, we then entered the wood, I observing to Mr Carr that we should find them engaged on our return.

We stayed in the wood some ten minutes, and, on leaving it, we saw the hares still in desperate battle. They had moved along the hill-side, and the grass was strongly marked with their down for a space of twenty yards. At last one of the sylvan warriors fell on its side, and never got upon its legs again. Its antagonist then retreated for a yard or so, stood still for a minute, as if in contemplation, and then rushed vengefully on the fallen foe. This retreat and advance was performed many times, the conqueror striking its prostrate adversary with its fore-feet, and clearing off great quantities of down with them. In the meantime the vanquished hare rolled over and over again, but could not recover the use of its legs, although it made several attempts to do so. Its movements put you in mind of a drunken man trying to get up from the floor after a hard night in the ale-house. It now lay still on the ground, effectually subdued, whilst the other continued its attacks upon it with the fury of a little demon. Seeing that the fight was over, we approached the scene of action, the conqueror hare retiring as we drew near. I took up the fallen combatant just as it was breathing its last. Both its sides had been completely bared of fur, and large patches of down had been torn from its back and belly. It was a well-conditioned buck-hare, weighing, I should suppose, some seven or eight pounds. Mr Carr's groom was standing by the stable-door as I came up with the hare in my hand. "Here, John," said I, "take this to your own house, and get your wife to dress it for your family; it is none the worse for being killed on Easter-Sunday;" and then I told him how it had come into my possession. He thanked me kindly for it; and I learned from Mr Carr, at the end of the week, that John's wife had made it into a pie, with the addition of a few rashers of bacon; that it proved to be uncommonly good; and that they would all remember, for many years to come, the fight betwixt the two hares in the park at Walton Hall, on Easter-Sunday afternoon, the 16th of April 1843.

THE FACULTY OF SCENT IN THE VULTURE.

"Et truncas inhonesto vulnere nares."—*Æneid,* lib. vi.

I NEVER thought that I should have lived to see this bird deprived of its nose. But in the third number of *Jameson's Journal,* a modern writer has actually given "An account of the habits of the turkey buzzard (*Vultur aura*), with a view of exploding the opinion generally entertained of its extraordinary power of smelling;" and I see that a gentleman in the *Magazine of Natural History*, vol. iii. p. 449, gives to this writer the honour of being the first man who, by his "interesting treatise," caused the explosion to take place. I grieve from my heart that the vulture's nose has received such a tremendous blow; because the world at large will sustain a great loss by this sudden and unexpected attack upon it. Moreover, I have a kind of fellow-feeling, if I may say so, for this noble bird. We have been for years together in the same country; we have passed many nights amongst the same trees; and though we did not frequent the same mess (for "*de gustibus non est disputandum*,"—and I could not eat rotten venison, as our English epicures do), still we saw a great deal of each other's company.

Sancho Panza remarks, that there is a remedy for everything but death. Now, as the vulture has not been killed by the artillery of this modern writer in *Jameson's Journal*, but has only had its nose carried away by an explosion, I will carefully gather up the shattered olfactory parts, and do my best to restore them to their original shape and beautiful proportions. In repairing the vulture's nose, I shall not imitate old Taliacotius, but I will set to work upon my own resources, and then the reader shall decide whether the vulture is to have a nose or to remain without one.

We all know what innumerable instances there are, in every country, of the astonishing powers of scent in quadrupeds. Thus, the bloodhound will follow the line of the deer-stealer hours after he has left the park; and a common dog will ferret out his master in a room, be it ever so crowded. He is enabled to do this by means of the well-known effluvium which, proceeding from his master's person, comes in contact with his olfactory nerves. A man even, whose powers of scent are by no means remarkable, will sometimes smell you a putrid carcass at a great distance. Now, as the air produced by putrefaction is lighter than common air, it will ascend in the atmosphere, and be carried to and fro through the expanse of heaven by every gust of wind. The vulture, soaring above, and coming in contact with this tainted current, will instinctively follow it down to its source, and there find that which is destined by an all-wise Providence to be its support and nourishment.

I will here bring forward the common vulture of the West Indies, the *Vultur aura* of Guiana, the king of the vultures of *terra firma*, and the vulture which is found in European Andalusia. I am intimately acquainted with all these useful scavengers; and I have never known any of them to kill the food upon which they feed; or when they are in a complete state of nature, free from the restraint or allurements of man, ever feed upon that which was not putrid. Having slain the large serpent mentioned in the "Wanderings," though I wished to preserve the skeleton, still I preferred to forego the opportunity, rather than not get the king of the vultures. I called Daddy Quasshi, and another negro, and we carried the body into the forest. The foliage of the trees where we laid it was impervious to the sun's rays, and had any vultures passed over that part of the forest, I think I may say with safety that they could not have seen the remains of the serpent through the shade. For the first two days not a vulture made its appearance at the spot, though I could see here and there, as usual, a *Vultur aura* gliding, on apparently immovable pinion, at a moderate height, over the tops of the forest trees. But during the afternoon of the third day, when the carcass of the serpent had got into a state of putrefaction, more than twenty of the common vultures came and perched upon the neighbouring trees, and the next morning, a little after six o'clock, I saw a magnificent king of the vultures. There was a stupendous mora-tree close by, whose topmost branch had either been dried by time or blasted by the thunder-storm. Upon this branch I killed the king of the vultures, before he had descended to partake of the savoury food which had attracted him to the place. Soon after this another king of the vultures came, and after he had stuffed himself almost to suffocation, the rest pounced down upon the remains of the serpent, and stayed there till they had devoured the last morsel.

I think I mentioned in the "Wanderings," that I do not consider the *Vultur aura* gregarious, properly so speaking; and that I could never see it feeding upon that which was not putrid. Often when I had thrown aside the useless remains of birds and quadrupeds after dissection, though the *Vultur aura* would be soaring up and down all day long, still it would never descend to feed upon them, or to carry them off, till they were in a state of putrefaction.

Let us here examine the actions of this vulture a little more minutely. If the *Vultur aura*, which, as I have said above, I have never seen to prey upon living animals, be directed by its eye alone to the object of its food, by what means can it distinguish a dead animal from an animal asleep? or how is it to know a newly dead lizard or a snake, from a lizard or a snake basking quite motionless in the sun? If its eye be the director to its food, what blunders must it not make in the negro-yards in Demerara, where broods of ducks and fowls are always to be found the day through, either sleeping or basking in the open air. Still the negro, whom habit has taught to know the *Vultur aura* from a hawk, does not consider him an enemy. But let a hawk approach the negro-yard, all will be in commotion, and the yells of the old women will be tremendous. Were you to kill a fowl and place it in the yard with the live ones, it would remain there unnoticed by the vulture as long as it was sweet; but, as soon as it became offensive, you would see the *Vultur aura* approach it, and begin to feed upon it, or carry it away, without showing any inclination to molest the other fowls which might be basking in the neighbourhood. When I carried Lord Collingwood's despatches up the Orinoco, to the city of Angustura, I there saw the common vultures of Guiana nearly as tame as turkeys. The Spaniards protected them, and considered them in the light of useful scavengers. Though they were flying about the city in all directions, and at times perching upon the tops of the houses, still many of the people, young and old, took their siesta in the open air, "their custom always of the afternoon," and had no fear of being ripped up and devoured by the surrounding vultures. If the vulture has no extraordinary powers of smelling, which faculty, I am told, is now supposed to be exploded since the appearance of the article in *Jameson's Journal*, I marvel to learn how these birds in Angustura got their information that the seemingly lifeless bodies of the Spaniards were merely asleep,—

"Dulcis et alta quies, placidæque simillima morti,"

and were by no means proper food for them. Some years after this, being alongside of a wood, I saw a negro on the ground; and, as I looked at him from a distance, it struck me that all was not right with him. On going up to him I found him apparently dead. Life was barely within him, and that was all. He was a total stranger to me, and I conjectured that he had probably been seized with sickness as he was journeying on, and that he had fallen down there to rise no more. He must have lain in that forlorn, and I hope insensible state, for many hours; because, upon a nearer inspection, I saw swarms of red ants near him, and they had eaten deeply into his flesh. I could see no marks that the vultures had been upon him. Indeed, their not being here caused me no surprise, as I had long been satisfied, from the innumerable observations which I had made, that the vulture is attracted to its food by the putrid exhalations which arise from it, when it has arrived at that state of decomposition which renders it fit, and no doubt delicious, food for this interesting tribe of birds. While I was standing near the negro, I could see here and there a *Vultur aura* sweeping majestically through the ethereal expanse, in alternate rises and falls, as these birds are wont to do when in search of carrion: but they showed no inclination to come and perch on the trees near the prostrate body of this poor unknown sable son of Africa. The terrible pestilence which visited Malaga at the beginning of the present century swept off thousands upon thousands in the short space of four months. The victims were buried by the convicts. So great was the daily havoc of death, that no private burials could be allowed; and many a corpse lay exposed in the open air till the dead carts made their rounds at nightfall to take them away to their last resting-place, which was a large pit, prepared for them by the convicts in the daytime. During this long-continued scene of woe and sorrow, which I saw and felt, I could never learn that the vultures preyed upon the dead bodies which had not had time enough to putrefy. But when the wind blew in from the Mediterranean, and washed ashore the corrupted bodies of those who had died of the pestilence, and had been thrown overboard from the shipping, then indeed, "*de montibus adsunt Harpyiæ*,"—then it was that the vultures came from the neighbouring hills to satisfy their hunger; then, one might have said of these unfortunate victims of the pestilence—

> "Their limbs, unburied on the naked shore,
> Devouring dogs and hungry vultures tore."

In Andalusia, one day in particular, I stood to watch the vultures feeding on the putrid remains of a mule, some ten miles from the pleasant village of Alhaurin. Both kids and lambs were reposing and browsing up and down in the neighbourhood, still the vultures touched them not; neither did the goatherds seem to consider their flocks as being in bad or dangerous company, otherwise they might have despatched the vultures with very little trouble, for they were so gorged with carrion that they appeared unwilling to move from the place. Now, seeing some of the kids and lambs lying on the ground quite motionless, and observing that the vultures paid no attention to them, I came to the following conclusion, viz., that the vulture is directed to its food by means of its olfactory nerves coming in contact with tainted effluvium floating in the atmosphere; and this being the case, we may safely infer that the vulture cannot possibly mistake a sleeping animal for one in which life is extinct, and which has begun to putrefy.

If the vulture were directed to its food solely by its eye, there would be a necessity for it to soar to an immense height in the sky; and even then it would be often at a loss to perceive its food on account of intervening objects. But I could never see the vulture rise to any very astonishing height in the heavens, as is the custom with the eagle, the glede, and some other birds of prey; and I am even fully of opinion, that when these last-mentioned birds soar so high, they are not upon the look-out for food. When looking at the vultures aloft, I could always distinguish the king of the vultures from the common vulture, and the common vulture from the *Vultur aura.* Sometimes an inexperienced observer in Guiana may mistake for vultures a flock of birds soaring to a prodigious height in the sky, but upon a steady examination, he will find that they are Nandapoas.

I conceive that we are in error when we suppose that birds of prey rise to such an astonishing height as we see them do, in order to have a better opportunity of observing their food on the ground below them. I have watched gledes and hawks intensely, when they have been so high that they appeared a mere speck in the azure vault; still, when at such a great height, I have never been able, in one single instance, to see them descend upon their prey, during the many years in which I have observed them. But, on the other hand, when birds of prey are in quest of food, I have always seen them fly at a very moderate height over the woods and meads, and strike their victim with the rapidity of lightning. Thus, the kestrel hovers at so comparatively short a distance from the earth, that he is enabled to drop down upon a mouse, and secure it as quick as thought. Thus, the merlin and sparrowhawk, a little before dark, shoot past you, when you are watching behind a tree, with inconceivable velocity, and snatch away the unsuspecting bunting from the hedge. But when food seems not to be the object, especially about the breeding season, you may observe the windhovers rising in majestic evolutions to a vast altitude; but, if you watch till your eyes ache, you will never see them descend upon their prey from this immense height: indeed, the great distance to which they rise would operate much against them in their descent to seize their food. For example, suppose a mouse to be on the ground, exactly under a hawk, which hawk is so high up that its appearance to the observer's eye is not larger than that of a lark, how is the hawk to take the mouse? If it descend slowly, the wary mouse would have time to get into its hole; if the hawk came down rapidly, the noise it causes in darting through the expanse would be a sufficient warning for the mouse to get out of the way. In order to have a proper idea of the noise which the descent of the bird would cause, we have only to listen to a rook in the act of what the peasants call shooting, and which, by the bye, they always consider as a sign of coming wind; though, in fact, it can easily be accounted for without any aid from conjecture. It might here be asked, for what object, then, do many birds of prey rise to such an amazing height in the sky? I answer, I know not. Why does the lark mount so high, and sing all the time? His female and other listeners on the ground would hear him more distinctly and clearly, were he to pour forth his sweet and vernal notes nearer to them.

But to return to the vulture. After the repeated observations I have made in the country where it abounds, I am quite satisfied that it is directed to its food by means of its olfactory nerves coming in contact with putrid effluvium, which rises from corrupted substances through the heavier air. Those are deceived who imagine that this effluvium would always be driven to one quarter in the tropics, where the trade-winds prevail. Often, at the very time that the clouds are driving from the north-east up above, there is a lower current of air coming from the quarter directly opposite. This takes place most frequently during the night-time, in or near the woods; and it often occurs early in the morning, from sunrise till near ten o'clock, when the regular trade-wind begins to blow. Sometimes it is noticed in the evening, after sunset; and now and then, during the best part of the day, in the rainy season. In Guiana there is a tree called hayawa: it produces a deliciously-smelling resin, fit for incense. When the Indians stop on the banks of a river for the night, they are much in the habit of burning this resin for its fine and wholesome scent. It is found in a hardened lumpy state, all down the side of the tree out of which it has oozed. It is also seen on the ground, at the foot of the tree, incorporated with the sand. When we had taken up our nightly quarters on the bank of the Essequibo, many a time we perceived this delightful fragrance of the hayawa, which came down the bed of the river to the place where we were, in a direction quite opposite to the trade-wind. My Indians knew by this that other Indians were encamped for the night on the river-side above us.

When the eruption took place in the Island of St Vincent, in the Carribbean Sea, in 1812, cinders and other minor particles of matter were carried nearly, if not fully, two hundred miles to windward, and were said to have fallen at or near Barbadoes. Had there been a carcass in a state of decomposition at the place during the time of the eruption, no doubt the effluvium arising from it would have been taken to windward by a temporary counter aërial current; and a vulture in Barbadoes might probably have had pretty certain information, through his olfactory nerves, that there was something good for him in the Island of St Vincent.

Vultures, as far as I have been able to observe, do not keep together in a large flock when they are soaring up and down apparently in quest of a tainted current. Now, suppose a mule has just expired behind a high wall, under the dense foliage of evergreen tropical trees; fifty vultures, we will say, roost on a tree a mile from this dead mule: when morning comes, off they go in quest of food.

Ten fly by mere chance to the wood where the mule lies, and manage to spy it out through the trees; the rest go quite in a different direction. How are the last-mentioned birds to find the mule? Every minute carries them farther from it. Now reverse the statement; and, instead of a mule newly dead, let us suppose a mule in an offensive state of decomposition. I would stake my life upon it, that not only the fifty vultures would be at the carcass next morning, but also that every vulture in the adjacent forest would manage to get there in time to partake of the repast.

Here I will stop, fearing that I have already drawn too largely on the reader's patience; but really I could not bear to see the vulture deprived of the most interesting feature in its physiognomy with impunity. These are notable times for ornithology: one author gravely tells us that the water-ousel walks on the bottom of streams; another describes an eagle as lubricating its plumage from an oil-gland; a third renews in print the absurdity that the rook loses the feathers at the base of the bill by seeking in the earth for its food; while a fourth, lamenting that the old name, Caprimulgus, serves to propagate an absurd vulgar error, gives to the bird the new name of night-*swallow*.

"In nova fert animus."

THE MEANS BY WHICH THE TURKEY BUZZARD TRACES ITS FOOD.

In answer to the remark of Mr Percival Hunter in the *Magazine of Natural History*, vol. iv. p. 83, that my account of the habits of the *Vultur aura* is at variance with the observations of Wilson, Humboldt, and Azara, I beg to inform him, that I pronounced the *Vultur aura* of Guiana to be *not gregarious*, after the closest attention to its habits for a long series of years; and I am still of decided opinion that this bird ought not to be considered gregarious.

Wilson was never in Guiana. As for Humboldt, I cannot think of submitting to his testimony, in matters of ornithology, for one single moment. The avocations of this traveller were of too multiplied a nature to enable him to be a correct practical ornithologist. Azara is totally unknown to me.

I have read Mr Audubon's paper very attentively, "and upon taking the length, breadth, height, and depth of it, and trying them at home, upon an exact scale," 'tis out, my lord, in every one of its dimensions.

In the paper in *Jameson's Journal*, after some preliminary observations, the author says, "When I visited the Southern States, and had lived, as it were, amongst these vultures for several years, and discovered, thousands of times, that they did not smell me when I approached them covered by a tree, until within a few feet; and that when, so near, or at a greater distance, I showed myself to them, they instantly flew away much frightened, the idea evaporated, and I assiduously engaged in a series of experiments to prove, to myself at least, how far the acuteness of smell existed, if it existed at all." Here the author wishes to prove to us, through the medium of his own *immediate person*, that the vulture is but poorly off for nose; but he has left the matter short on two essential points. First, he has told us nothing of the absolute state of his own person, at the actual time he approached the vultures; and, secondly, he is silent as to the precise position of his own person with regard to the wind. This neglect renders his experiment unsatisfactory. If, on his drawing near to the birds, no particular effluvium or strong smell proceeded from his person, it is not to be expected that they could smell him. "*De nihilo nihilum, in nihilum nil posse reverti*," as the old saying is. If, again, he had a smell about him, and he happened to be to *leeward* as he approached the vultures, their olfactory nerves could not possibly have been roused to action by it, although he had been Gorgonius himself (*Gorgonius hircum*), for every particle of smell from his person would have been carried down the gale, in a contrary direction to the birds.

I will now proceed to examine the author's first experiment. "I procured," says he, "a skin of our common deer, entire to the hoofs, and stuffed it carefully with dried grass until filled rather above the natural size, suffered the whole to become perfectly dry and hard as leather, took it to the middle of a large open field, laid it down on its back, with its legs up and apart, as if the animal was dead and putrid. I then retired about a few hundred yards, and, in the lapse of some minutes, a vulture, coursing round the field, tolerably high, espied the skin, sailed directly towards it, and alighted within a few yards of it. I ran immediately, covered by a large tree, until within about forty yards, and from that place could spy the bird with ease. He approached the skin, looked at it without apparent suspicion, jumped on it, &c.; then, approaching the eyes, that were here solid globes of hard dried and painted clay, attacked first one and then the other, with, however, no further advantage than that of disarranging them. This part was abandoned, the bird walked to the other extremity of the pretended animal, and there, with much exertion, tore the stitches apart, until much fodder and dry hay was pulled out, but no flesh could the bird find or smell. He was intent on discovering some where none existed, and, after reiterated efforts—all useless—he took flight, coursed about the field, when, suddenly rounding and falling, I saw him kill a small garter-snake, and swallow it in an instant. The vulture rose again, sailed about, and passed several times quite low over my stuffed deerskin, as if loth to abandon so good-looking a prey." The author continues: "Judge of my feelings when I plainly saw that the vulture, which could not discover, *through its extraordinary sense of smell*, that no flesh, either fresh or putrid, existed about the skin, could, at a glance, see a snake, scarcely as large as a man's finger, alive, and destitute of odour, hundreds of yards distant."

In this first experiment we are left in such uncertainty with regard to the actual distance of the vulture from the author at the time the vulture killed the snake, that I cannot, for the life of me, come to any satisfactory conclusion. It appears that there was a tree about forty yards from the stuffed deerskin. Under covert of the tree the author watched the predatory attack of the vulture on the skin. The disappointed bird took flight, and coursed about the field, which the author tells us is large and open. While coursing round this field, the vulture, suddenly rounding and falling, killed a garter-snake scarcely as large as a man's finger. The author tells us he plainly saw that the vulture could see this snake hundreds of yards distant. I am not surprised that the *vulture* saw the snake hundreds of yards distant, as I am fully aware of the keen sight of all birds; but what really astonishes me is, that the *author* could see the snake, and know it to be a garter-snake; for, upon the face of the statement, I am led to conclude that he himself, as well as the vulture, was hundreds of yards distant from the snake. It were much to be wished that the author had said something positive with regard to the actual distance of the snake from the tree under which he had taken his stand. Again, the author tells us, in the beginning of this experiment, that he retired about a few hundred yards from the spot where he had placed the deerskin in the middle of the large open field, and that a vulture, in the lapse of some minutes, alighted within a few yards of the skin. The author ran immediately, covered by a large tree, till within about forty yards of the skin. Now, quickness of sight in the vulture being the very essence of our author's paper in *Jameson's Journal*, I am at a loss to conceive how our author contrived to run over the few hundred yards unseen by the vulture. To be sure, a large tree intervened; but then the vulture happened to be about forty yards on the other side of it, and this distance of the vulture from the tree would be all in its favour for descrying a man coming up in an opposite direction, through the open space of a few hundred yards, which, to judge by this vague expression, might be a quarter of a mile, more or less. Had the bird seen him, there is no doubt but that it would have flown away; because the author tells us, in the beginning of his paper, that "when he showed himself to the vultures, they instantly flew away frightened."

In one part of this experiment, at least, our author proves beyond the shadow of a doubt that his vulture was totally deficient in scent, and he has the very best of all reasons—no smell existed in his deerskin. "No flesh could the bird find, or smell. He was intent on discovering some where none existed." Still, methinks, the vulture was right in ripping up the pretended animal, and there was method in his prosecuting his excavation through the regions of dried hay. No lapse of time could have completely subdued the smell which would arise from the ears, the hoofs, the lips, and the very skin itself of the deer. This smell must have been the thing that instigated the bird to look narrowly into the skin, and detained him so long at the place. I have a better opinion of the vulture's sagacity than to suppose that he would have spent so much of his precious time upon the rudely-stuffed mockery of an animal, unless his nose had given him information that some nutriment existed in that which his keen and piercing eye would soon have told him was an absolute cheat.

Second Experiment.—The author says, "I had a large dead hog hauled some distance from the house, and put into a ravine, about twenty feet deeper than the surface of the earth around it, narrow and winding, much filled with briars and high cane. In this I made the negroes conceal the hog, by binding cane over it, until I thought it would puzzle either the buzzards, carrion crows, or any other birds to see it, and left it for two days. This was early in the month of July, when in this latitude it becomes putrid and extremely fetid in a short time. I saw, from time to time, many vultures in search of food sail over the field and ravine in all directions, but none discovered the carcass, although during this time several dogs had visited it and fed plentifully on it. I tried to go near it, but the smell was so insufferable, when within thirty yards, that I abandoned it; and the remains were entirely destroyed at last through natural decay."

Here the author positively and distinctly tells us, that he saw *many* vultures, in search of food, sail over the field and ravine *in all directions*, but none discovered the carcass, although *during this time* several dogs had visited it, and fed plentifully on it. Pray, when the dogs were at dinner on the carcass, and the vultures at the same time were flying over the ravine where the hog lay, what prevented these keen-eyed birds from seeing the hog? The author positively says, that none discovered the carcass. Could, then, several dogs devour the hams of swine, and riot on pig's liver, in such amazing secrecy and silence as not to be observed in the act by the lynx-eyed vultures above? Were there no squabbles amongst the dogs for possession of the pig's cheeks? no snarling for the flitch? no pulling the body this way or that way? no displacing the materials with which the negroes had covered the hog? In a word, was there no movement on the part of the dogs by which the passing vultures might receive a hint that there was something in the ravine below "calculated to glut their voracious appetite?" Fear, certainly, could not have kept them away; because the author tells us, in another part of his account, that he has seen vultures feeding at one extremity of a carcass, and dogs at another.

This second experiment, like the story of the "bear and fiddle," was broken off in the middle. The author tried to go near the carcass, but the smell was so insufferable that he abandoned it when he had got within thirty yards of it. He tells us, the remains were entirely destroyed at last through natural decay. How did he learn this? At the time that he abandoned the carcass to its fate, the insufferable smell clearly proved that there was plenty of carrion still on the bones; but, as the author's own olfactory nerves prevented him from watching it any longer, I will take upon myself to make up the *hiatus valde deflendus*, which his sudden retreat occasioned, by a conjecture of my own; namely, that the dogs and vultures, like the devil and the king in "Sir Balaam," divided the prize. It would have taken a lapse of weeks to have destroyed the smell putrescent which came from the remains of so large an animal; and even granted that the vultures had been too dull of nose to have smelled it, still it could not have failed to have attracted other dogs, or the same dogs when their stomachs had become empty; and they themselves would have gnawed off all the flesh, and squandered the bones, without allowing "natural decay" to consume that which was so palatable to them. Be this as it may, the author immediately returned, and commenced a new operation *about the same place.* This fortifies me in my conjecture, that the carcass must have had some greedy customers after the author's departure, otherwise the insufferable smell must have been still there; and then the author, by his own account, would have been ill able to stand the attacks on his nasal feelings during the new operation.

He says, "I then took a young pig, put a knife through its neck, and made it bleed on the earth and grass about the same place, and, having covered it closely with leaves, also watched the result. The vultures saw the fresh blood, alighted about it, followed it down into the ravine, discovered by the blood the pig, and devoured it, when yet quite fresh, within my sight." I must here own I am astonished that the vultures could see this, and still have seen nothing of the large hog whilst several dogs were feeding on it. However, I request the reader to ruminate for a while on these two experiments with the large hog and the little pig: and then he will be able to draw his own conclusion as to the blindness of the vultures during the first experiment, and their keenness of vision during the second.

I will now take a peep at the vultures marshalled in aërial columns. The author tells us, "A flock of twenty may easily survey an area of two miles, as they go turning in large circles, often intersecting each other in their lines, as if forming a vast chain of rounded links; some are high, whilst others are low; not a spot is passed over unseen; and consequently, the moment a prey is discovered, the favoured bird rounds to, and by the impetuosity of its movements gives notice to its nearest companion, who immediately follows him, and is successively attended by all the rest. Thus the farthest from the discoverer, being at a considerable distance, sails in a direct line towards the spot indicated to him by the flight of the others, who have all gone in a straight course before him, with the appearance of being impelled by this extraordinary power of smelling, so erroneously granted them." Here I break the quotation, to ask the question, how are the hindermost vultures, which are successively attending to the notice given by the *favoured bird*, in order to profit by it, to know whether the *favoured bird* has alighted upon some large carrion, or a diminutive garter snake? The leader vulture, according to our author's former experiment, would be equally liable to fall down upon the one as upon the other; and though *he* might get a mouthful, the *rest* would be sorely disappointed. Again, suppose the leader were to round to, and fall upon a stuffed deerskin, and dilly-dally his time away in reconnoitring it, would not the rest, on coming up, have just reason to be much out of temper? Our author continues, "If the object discovered is large, lately dead, and covered with a skin too tough to be ate and torn asunder" (cart before the horse), "and afford free scope to their appetite, they remain about it, and in the neighbourhood. Perched on high dead limbs, in such conspicuous positions, they are easily seen by other vultures, who, through habit, know the meaning of such stoppages, and join the first flock, going also directly, and affording further evidence, to those who are satisfied with appearances only. In this manner I have seen several hundreds of vultures and carrion crows assembled near a dead ox at the dusk of evening, that had only two or three in the morning; when some of the latter comers had probably travelled hundreds of miles, searching diligently themselves for food, and probably would have had to go much farther had they not espied this association." A little after this, having described the manner in which the "famished cannibals" satisfied their hunger, the author says, "the repast finished, each bird gradually rises to the highest branches of the nearest trees, and remains there until the digestion of all the food they" (instead of it) "have" (has) "swallowed is completed."

Here we have, perched on high trees, flocks of vultures waiting till their dinner be sufficiently tender; and also flocks of vultures waiting on the highest branches of trees till their dinner be sufficiently digested. The author tells us that the first "are easily seen by other vultures, who through habit know the meaning of such stoppages." I wish the author had told us how he became informed of this knowledge, which the "other vultures" had acquired of these stoppages. Let us suppose for an instant that the latter comers, after travelling "hundreds of miles," had unluckily mistaken the group of vultures perched on high trees; and in lieu of arriving at the tree under which dinner was waiting for them, they had got to the tree under which all the dinner had been eaten up. Pray, what were the hungry scavengers to do? Were they to proceed "hundreds of miles" farther, upon an empty stomach, in quest of more stoppages? or were they to wait in patience, with the vultures perched on high dead limbs of trees, till those stomach-filled birds should have digested their food, and were ready to start afresh? The author assures us, that "vultures perched on high dead limbs, in such conspicuous positions, are easily seen by other vultures, who, through habit, know the meaning of such stoppages." But then we have only his bare word for this extraordinary circumstance; and notwithstanding what he has said, my opinion is, that the coming-up vultures would just as often have the bad luck to find themselves arrived at the tree under which the dinner had been all eaten up, as the good luck to get to the tree under which dinner was to be found too tough to be eaten immediately.

Towards the end of the account, our author tells us, that "the power given to them (the vultures) by nature of discerning the approaching death of a wounded animal is truly remarkable." By way of exemplification, he continues, "A poor emaciated horse or ox, the deer mired in the margin of the lake, where the timid animal had resorted to escape flies and musquitoes, so fatiguing in summer, is seen in distress with exultation by the buzzard. He immediately alights, and, if the animal does not extricate itself, waits, and gorges in peace on as much of the flesh as the nature of the spot will allow." Here the author at once invalidates his assertion of the remarkable power given by nature to the vulture, by the insertion of the unfortunate little remark, *if it does not extricate itself.* The vulture alights, ready to feed on the flesh of the deer, if it does not extricate itself. Now the expression, *if it does not extricate itself*, gives us to suppose that it *may* extricate itself; and, if it does extricate itself, then off it goes, and of course escapes from the vulture. Wherefore, in this instance, nature would have given false information to the vulture.

In closing his account, our author says, "What I have said of their killing and devouring young animals are" (instead of is) "sufficient proofs" (proof) "of this; but it frequently happens that these birds are forced to wait until the hide of their prey will give way to their bills." In order to substantiate this, our author produces an alligator. "I have seen," says he, "a large dead alligator, surrounded by vultures and carrion crows, of which nearly the whole of the flesh was so completely decomposed, before these birds could perforate the tough skin of the monster, that, when at last it took place," (what took place?) "their disappointment was apparent, and the matter, in an almost fluid state, abandoned by the vultures." Here we have the singular phenomenon of vultures surrounding their own dinner, without being able to touch it, for want, I may say, of suitable carving-knives; and at last they are forced to depart on an empty stomach, bearing marks on their countenances of apparent disappointment. I ask, what became of the enormous mass of flesh in the alligator's tail? was *it*, too, in an almost fluid state, similar to that of the contents of the abdomen? Had, then, the first stage of putrefaction done nothing towards the softening of the skin, which, in the tail of this animal, is by no means so thick as in the dorsal and abdominal regions? Were his vultures so green in the art of perforation as not to have learned that, as soon as putrefaction takes place, the skin of the tail may be easily perforated at the different joints? If the vultures, only for a minute, had but bethought themselves of applying their "very powerful bills" to the skin at these joints, it would undoubtedly have yielded to their efforts; and then they could easily have worked their way forward to the other parts of the alligator. Had but our little carrion crow been there, he could soon have taught them how to carve, and shown the lubberly birds where lay the soft parts. Again, I ask, were the vultures, whose daily occupation ought to give them a pretty correct notion of the general structure of animals, ignorant that there are certain parts in those animals admirably adapted for contraction and expansion, and, of course, that those parts are invariably softer than the other parts of the bodies of scaly quadrupeds? Did his birds not know, or had they forgot on that occasion, that these parts are to be found, on each side of the alligator, betwixt the nearly impenetrable scaly armour on the back; and the equally impenetrable armour of the under parts? In a word, I am positive, if his vultures had but been well versed in the nature of the parts *without*, they would soon have introduced themselves to the delicious banquet *within*, in lieu of surrounding the carcass from day to day, in hope deferred; till at last solids were almost turned into fluids, and the disappointed boobies found themselves under the heart-rending necessity of abandoning the alligator without breaking their fast, and of going in quest of firmer carrion in some other quarter. If our author's statement be correct, viz., that the skin of a large alligator is too tough to be perforated by the bills of vultures, until time shall have rendered the carcass of the dead animal too fluid to be of any use to them in the way of food, then it follows that no large dead alligator can ever become the food of vultures. The birds may certainly see it at a great distance, and wing their way to it, and stop at it; and other vultures, miles behind them, may even fancy "that they know the meaning of such stoppages:" still, I am prone to opine that their labours would be ill requited. In lieu of dropping down upon a good dinner, disappointment would be their lot; and they would be regaled with nothing of a more solid nature than transient puffs of highly tainted vapour. But here I will stop: I have been too long on carrion,—

> ——"Neque enim tolerare vaporem
> Ulterius potui."—*Ovid. Met.*, ii. 301.

THE VULTURE'S NOSE.

THE American philosophers have signed a solemn certificate that they feel assured that the two species of vultures which inhabit the United States "are guided to their food altogether through their sense of sight, and not that of smell." I, on the contrary, assert that all vultures can find their food through the medium of their olfactory nerves, though it be imperceptible to their eye. I cannot consent to deprive the vultures of their noses merely on the strength of experiments, which, from circumstances, may prove fallacious, notwithstanding every possible precaution; and, in the cases before us, I find myself constrained to dispute the legitimacy of the deductions at which these gentlemen calculate they have arrived. The effluvium from the dead hare and the offal which they had procured might have been prevented from ascending by the covering of brushwood; or it might have been depressed to the earth by humidity, or by a current of wind. Either of these suggestions may be adopted in the present instance, because the dogs, which had no tainted footsteps to guide them, still found that which insured their discovery of the carrion.

The sad experiment of putting out the poor vulture's eyes fills me with distressing emotions. The supposed fact of the tortured captive not smelling his favourite food, when placed within *an inch* of his nostrils, forces us to conclude, either that nature had not intended that his beautifully-developed organs of scent should be of the least service to him, or that the intensity of pain totally incapacitated the lone prisoner from touching food. I am of the latter opinion. Unquestionably the pain caused by the dreadful operation rendered the miserable sufferer indifferent to all kind of sustenance.

I myself have been unable to eat when in the gripes; and I once knew an old owl which died of sheer want, rather than swallow anything in captivity. What would the American philosophers think of me, had I got this owl's demise well authenticated by the signatures of divers scientific men, and then despatched it across the Atlantic, in order to prove that owls do not secure their prey by means of their feet, because, forsooth, the incarcerated owl in question never once struck her talons into the food which had been placed within an inch of them.

Nothing can show more forcibly the utter fallacy of the American experiments, than the attack of the vultures on the coarse painting which represented a "sheep skinned and cut up." Till I had read the account of it, I had always imagined that the vulture had a remarkably keen and penetrating eye. I must now alter my opinion. If the American gentlemen do not mind what they are about, they will ultimately prove too much ("*quod nimium probat*, *nihil probat*"), and at last compel us Englishmen to conclude that the vultures of the United States can neither see nor smell. They assure us that these birds are not guided to their food by their *scent*, but by their *sight alone;* and then, to give us a clear idea how defective that sight is, they show us that their vultures cannot distinguish the coarsely-painted carcass of a sheep on canvas from that of a real sheep. They "commenced tugging at the painting," and "seemed much disappointed and surprised" that they had mistaken canvas for mutton. Sad blunder! Pitiable, indeed, is the lot of the American vulture! His nose is declared useless in procuring food, at the same time that his eyesight is proved to be lamentably defective. Unless something be done for him, 'tis ten to one but that he'll come to the parish at last, *pellis et ossa,* a bag of bones.

The American philosophers having fully established the fact that their vultures are prone to mistake a piece of coarsely-painted canvas for the carcass of a real sheep "skinned and cut up." I am now quite prepared to receive accounts from Charleston of vultures attacking every shoulder-of-mutton sign in the streets, or attempting to gobble down the painted sausages over the shop-doors, or tugging with might and main at the dim and faded eyes in some decaying portrait of the immortal Dr Franklin.

The absurdity of all this must be evident to everybody.

I, in my turn, hope to prove satisfactorily, by *inference*, that which the American philosophers have failed to demonstrate by EXPERIMENTS. I state that effluvium from putrid matter, being lighter than common air, necessarily ascends in the atmosphere, unless artificially impeded (as probably was the case in the first experiment of the American philosophers), or prevented from mounting by superincumbent humidity. Now, the organ of scent, which is strongly developed in the vulture, coming in contact with this effluvium, when it is allowed to float in the atmosphere, enables the bird to trace the carrion down to its source. Hence I infer, that vultures can find their food through the medium of their olfactory nerves; and this being the case, I am of opinion that there ought to be no great mystery attached to the act of the vulture's finding putrid bodies, when those bodies are out of sight, either on account of distance, or of interfering objects.

When the American philosophers shall have proved to me that effluvium from putrid substances does not ascend in the air, and that the organisation of the vulture's nose is imperfect, then I will consider myself vanquished: "*efficaci do manus scientiæ.*" After those gentlemen shall have accomplished this, should their vultures pine in famine, by continuing to mistake canvas for carcass, why, rot 'em, they may die, for aught I care to the contrary.

ÆRIAL ENCOUNTER OF THE EAGLE AND THE VULTURE.

NEXT to the adventure of the rattlesnake and squirrel, in which Audubon informs us that he saw a rattlesnake swallow a large American squirrel, tail foremost, I am of opinion that this presents the toughest morsel ever offered to the proverbially wide gullet of John Bull. Audubon says, "Many vultures were engaged in devouring the body and entrails of a dead horse, when a white-headed eagle accidentally passing by, the vultures all took to wing, one, amongst the rest with a portion of the entrails, partly swallowed, and the remaining part, about a yard in length, dangling in the air. The eagle instantly marked him and gave chase. The poor vulture tried in vain to disgorge, when the eagle, coming up, seized the loose end of the gut, and dragged the bird along for twenty or thirty yards, much against its will, till both fell to the ground—when the eagle struck the vulture, and in a few moments killed it, after which he swallowed the delicious morsel." In his strange paper on the habits of the turkey buzzard, Mr Audubon tells us "that if the object discovered is large, lately dead, and covered with a skin too tough to be ate and torn asunder (cart before the horse), and afford free scope to their appetites, they remain about it and in the neighbourhood." Now, reader, observe that the dead horse being a large animal, its skin, according to this quotation, must have been too tough to be torn asunder by the vultures, until putrefaction took place. If, then, these vultures really commenced devouring the dead animal while it was yet fresh, Mr Audubon's theory, just quoted, is worth nothing. If, on the contrary, the horse in question had become sufficiently putrid to allow the vultures to commence operations, then I will show that the aërial account of the eagle and the vulture is either a mere imaginary effusion of the author's fancy, or a hoax played off upon his ignorance by some designing wag. The entrails of a dead animal are invariably the first part to be affected by putrefaction. Now, we are told that a piece of gut had been torn from the rest, and swallowed by the vulture, a portion of the said gut, about a yard in length, hanging out of his mouth. The vulture, pressed hard by the eagle, tried in vain to disgorge the gut. This is at variance with a former statement, in which Mr Audubon assures us that an eagle will force a vulture to disgorge its food in a moment: so that the validity of this former statement must be thrown overboard, in order to insure the safety of the present adventure; or *vice versâ*, the present adventure must inevitably sink, if the former statement is to be preserved. Be this as it may, the eagle, out of all manner of patience at the clumsiness of the vulture, in his attempt to restore to daylight that part of the gut which was lying at the bottom of his stomach, laid hold of the end which was still hanging out of the unfortunate rascal's mouth, and actually dragged him along through the air, for a space of twenty or thirty yards, much against the vulture's will. Now, though the eagle pulled, and the vulture resisted, still the yard of gut, which we must suppose was in a putrid state, for reasons already mentioned, remained fixed and firm in the vulture's bill. With such a force, applied to each extremity, the gut ought either to have given way in the middle, or to have been cut in two at those places where the sharp bills of the birds held it fast. But stop, reader, I pray you: speculation might be allowed here, provided this uncommon encounter had taken place on *terra firma;* but, in order that our astonishment may be wound up to the highest pitch, we are positively informed that the contention took place, not on the ground, or in a tree, but in the circumambient air! Pray, how was it possible for the eagle to advance through the air, and to have dragged along a resisting vulture, by means of a piece of gut acting as a rope about a yard in length? Birds cannot fly backwards; and the very act of the eagle turning round to progress after it had seized the end of the gut, would have shortened the connecting medium so much, that the long wings of both birds must have immediately come in contact; their progress would have been prevented by the collision; and, in lieu of the eagle dragging the resisting vulture through the air for a space of twenty or thirty yards, both birds would have come to the ground, or the gut would have given way.

I have never read anything in the annals of ornithology that bears any similarity to this aquila-vulturian exhibition progressing through the vault of heaven. Verily "there is a freshness in it." When we reflect that Mr Audubon is an American, that he has lived the best part of his life in America, that the two birds themselves were American, and that their wonderful encounter took place in America, we Englishmen marvel much that Mr Audubon did not allow the press of his own country to have the honour to impart to the world so astonishing an adventure.

THE WINDHOVER.

Nothing can be more unfortunate for a man than to bear a strong resemblance to another who is notorious for his evil deeds. The public eye marks him as he passes on, and tacitly condemns him for misdemeanours of which he is, probably, as innocent as the lamb which gambols on the lawn. This may be applied with great truth to the windhover hawk. He is perpetually confounded with the sparrowhawk, and too often doomed to suffer for the predatory attacks of that bird on the property of man. But when your gun has brought the poor windhover to the ground, look, I pray you, into the contents of his stomach; you will find nothing there to show that his life ought to be forfeited. On the contrary, the remnants of the beetle and the field-mouse, which will attract your notice, prove indisputably that his visits to your farm have been of real service to it.

This hawk has received the name of windhover on account of his custom of hovering in the air. By the way, he is not the only bird which performs this curious evolution. The sparrowhawk, the barn-owl, the gull, and the kingfisher, are often seen in a similar position. A little attention on the part of the beholder would soon enable him to distinguish the windhover from the sparrowhawk. The windhover, when in quest of food, glides softly through the air, at a moderate height, now poised in the breeze on fluttering pinion, now resting in the void apparently without motion; till, at last, down he comes, like a falling stone, upon the unconscious prey below. But, should he be disappointed in his purpose, he rises again in elegant ascent, to seek for food elsewhere. The sparrowhawk, on the contrary, though he will sometimes hover in the air, still he usually secures his prey by means of a very quick pursuit. Both at early dawn and at the fall of night, he will dart past you with inconceivable velocity; and then woe betide the luckless victim that attracts his eagle eye. This bird often makes his appearance at a tower which I have built for the starlings, and to which above fifty pairs of these birds resort during the spring of the year. His unwelcome visit causes a tremendous uproar. A universal shriek of horror announces his detested presence; and scarcely have I time to fix my eyes upon the tower, ere the intruder is off with a starling in his talons.

Did the nurseryman, the farmer, and the country gentleman, know the value of the windhover's services, they would vie with each other in offering him a safe retreat. He may be said to live almost entirely on mice; and mice, you know, are not the friends of man; for they bring desolation to the bee-hive, destruction to the pea-bed, and spoliation to the corn-stack. Add to this, they are extremely injurious to the planter of trees. The year 1815 was memorable, in this part of the county of York, for swarms of field-mice exceeding all belief. Some eight years before this, I had planted two acres of ground with oaks and larches in alternate rows. Scarcely any of the oaks put forth their buds in the spring of 1816; and, on my examining them, in order to learn the cause of their failure, I found the bark entirely gnawed away under the grass, quite close to the earth, whilst the grass itself, in all directions, was literally honeycombed with holes, which the mice had made. In addition to the bark of young oaks, mice are extremely fond of that of the holly tree: I have hollies which yet bear the marks of having been materially injured by the mice in winter. Apple-trees, when placed in hedgerows, are often attacked by mice, and, in many cases, are much injured by them. I prize the services of the windhover hawk, which are manifest by the quantity of mice which he destroys; and I do all in my power to put this pretty bird on a good footing with the gamekeepers and sportsmen of our neighbourhood. Were this bird properly protected, it would repay our kindness with interest; and we should then have the windhover by day, and the owls by night, to thin the swarms of mice which overrun the land.

As the windhovers make no nest, they are reduced to the necessity of occupying, at second-hand, that of another bird. I once made the experiment to try if a windhover would take possession of a nest newly built; and, in order to prepare the way, I singled out the nest of a carrion crow. As soon as the crow had laid her third egg, I ascended the tree, and robbed the nest. In less than a week after this, a pair of windhovers took to it; and they reared a brood of young in its soft and woolly hollow. The windhover is a social bird, and, unlike most other hawks, it seems fond of taking up its abode near the haunts of men. What heartfelt pleasure I often experience in watching the evolutions of this handsome little falcon! and with what content I see the crow and the magpie forming their own nests, as I know that, on the return of another spring, these very nests will afford shelter to the windhover. Were I to allow the crow and the magpie to be persecuted, there would be no chance for the windhover to rear its progeny here; for Nature has not taught this bird the art of making its nest in a tree. How astonishing, and how diversified, are the habits of birds! The windhover is never known to make use of a nest until it has been abandoned for good and all by the rightful owner; whilst, on the contrary, the cuckoo lays her egg in one of which the original framer still retains possession. The windhover usually lays five eggs, and one of them sometimes proves addle. This bird is seen to the greatest advantage during the time that it is occupied in rearing its young: at that period, nothing throughout the whole range of ornithological economy can surpass the elegance of its aërial evolutions.

Perhaps it is not generally known that the windhover is a migratory bird; but whether the greater part of these hawks leave England in the autumn, or merely retire from their breeding-place to some other part of our country more congenial to their habits, is a problem which remains yet to be solved. For my own part, I am of opinion that a very large proportion of those which are bred in England leave it in the autumn, to join the vast flights of hawks which are seen to pass periodically over the Mediterranean Sea, on their way to Africa. Last summer I visited twenty-four nests in my park, all with the windhover's eggs in them. The old birds and their young tarried here till the departure of the swallow, and then they disappeared. During the winter, there is scarcely a windhover to be found. Sometimes a pair or so makes its appearance, but does not remain long. When February has set in, more of the windhovers are seen; and about the middle of the month their numbers have much increased. They may be then heard at all hours of the day; and he who loves to study nature in the fields may observe them, now on soaring wing, high above in the blue expanse of heaven; now hovering near the earth, ready to pounce upon the luckless mouse; and now inspecting the deserted nests of crows and magpies, in order to secure a commodious retreat wherein to perform their approaching incubation. Allowing, on an average, four young ones to the nest, there must have been bred here ninety-six windhover hawks last summer: add the parent birds, and we shall have, in all, one hundred and fourty-four. Scarcely five of these birds were seen here from Michaelmas to the latter end of January. The periodical disappearance of the windhover from its breeding-place might give rise to much ornithological inquiry; but I suspect that, when every circumstance shall have been duly weighed, we shall still be in the dark with regard to the true cause of its departure. The want of food cannot be supposed to force it away; for food the most congenial to its appetite is found here in great abundance at the very time when it deserts us. Neither can supposed inclemency of weather be alleged in support of its migration, as the temperature of England is remarkably mild long after the sun has descended into the southern hemisphere.*

In a pocket-book of Waterton's were the following observations on the kestrel:—"I strongly suspect that this hawk leaves us at the end of September or early in October."

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* This year of 1826, there were five nests of the windhover in my park. They all hatched and reared their young. I saw numbers of them every day till the last week in September. They then disappeared, nor have I seen one in October or up to the 10th of November, at the time I am now writing this.

WINDHOVER HAWK.—Saw them here February 8, 1831, being the first day of their appearance since October 1830.

July 6, 1850. Examined a windhover's nest, with a brood of half-fledged young ones in it. The nest was a last year's ringdove's; but I could not find a single feather in the nest, proof sufficient that windhovers do not feed their young on birds.

It is to be observed that Waterton does not assert that the kestrel never eats a small bird, for in 1844 he writes, "Mr Bury has quite satisfied me that the windhover will now and then make a meal on the smaller birds; and this information on his part is very acceptable to me, as I have no opportunity of observing the windhover during the winter months, for it leaves this immediate neighbourhood in October, and seldom returns before the first week in February."—[ED.]

THE BARN OWL, AND THE BENEFITS IT CONFERS ON MAN.*

THIS pretty aërial wanderer of the night often comes into my room; and after flitting to and fro, on wing so soft and silent that he is scarcely heard, he takes his departure from the same window at which he had entered. I own I have a great liking for this bird; and I have offered it hospitality and protection on account of its persecutions, and for its many services to me,—I say services, as you will see in the sequel. I wish that any little thing I could write or say might cause it to stand better with the world at large than it has hitherto done: but I have slender hopes on this score; because old and deep-rooted prejudices are seldom overcome; and when I look back into the annals of remote antiquity, I see too clearly that defamation has done its worst to ruin the whole family, in all its branches, of this poor, harmless, useful friend of mine. Ovid, nearly two thousand years ago, was extremely severe against the owl. In his "Metamorphoses" he says,—

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* Mr Alfred Ellis of Belgrave has done good service to farmers and to owls by reprinting this essay, and circulating it in the form of a pamphlet. This gentleman was a correspondent and friend of Waterton, and has followed the example of Walton in his own park. In some "Notes about Birds," printed in 1868, Mr Ellis gives an account of the success which has attended his protection of our native fauna. His place is situated on the edge of Charnwood Forest, a tract of unenclosed moorland, and near it are the well-wooded parks of Bradgate and Beaumanor. Thus, as far as situation is concerned, a fine show of wild birds might be expected. The gamekeeper is not allowed to discharge a gun during the breeding-season, and Mr Ellis has persuaded his neighbours to show some degree of mercy towards the wild birds. In the little book referred to above, he states the result: "At the Brand, a very small property in the heart of Leicestershire, there could be seen in the summer of 1864, within one hundred yards of each other, a pair of kestrels rearing their young in a hollow tree, while above them was a nest of starlings; hard by, the green woodpecker was performing the same duty; and in a rude tower, prepared to attract them, a pair of barn owls brought up their family; while the stock-dove chose an adjoining hole in the same building, and into which the owls had free access. The goat-sucker reared her young in the same locality. These facts will show what may be accomplished, for at this place there is plenty of game, which is shot in the usual way."

Within the limits of the Brand there are some old quarries now filled with water and overhung by crags of dark rock. One December afternoon when visiting Mr Ellis, I saw a kingfisher fly three times across this miniature lake. The brilliant orange and blue of the bird formed a lovely contrast with the dull slate rocks, the sombre colours of the winter sky and their reflection in the water, and showed how greatly the beauties of a landscape may be enhanced by the presence of living things.—[ED.]

> "Fœdaque fit volucris, venturi nuncia luctus,
> Ignavus bubo, dirum mortalibus omen."

In his "Fasti" he openly accuses it of felony,—

> "Nocte volant, puerosque petunt neutricis egentes."

Lucan, too, has hit it hard,—

> "Et lætæ jurantur aves, bubone sinistro:"

and the Englishman who continued the "Pharsalia" says,—

> "Tristia mille locis Stygius dedit omina bubo."

Horace tells us that the old witch Canidia used part of the plumage of the owl in her dealings with the devil,—

> "Plumamque nocturnæ strigis."

Virgil, in fine, joined in the hue and cry against this injured family,—

> "Solaque culminibus ferali carmine bubo
> Sæpe queri, et longas in fletum ducere voces."

In our own times we find that the village maid cannot return home from seeing her dying swain without a doleful salutation from the owl,—

> "Thus homeward as she hopeless went
> The churchyard path along,
> The blast grew cold, the dark owl scream'd
> Her lover's funeral song."

Amongst the numberless verses which might be quoted against the family of the owl, I think I only know of one little ode which expresses any pity for it. Our nursery-maid used to sing it to the tune of "The Storm," "Cease, rude Boreas, blustering railer." I remember the first two stanzas of it:—

"Once I was a monarch's daughter,
And sat on a lady's knee;
But am now a nightly rover,
Banish'd to the ivy tree,

"Crying, hoo, hoo, hoo, hoo, hoo, hoo,
Hoo, hoo, hoo, my feet are cold!
Pity me, for here you see me,
Persecuted, poor and old."

I beg the reader's pardon for this exordium. I have introduced it, in order to show how little chance there has been, from days long passed and gone to the present time, of studying the haunts and economy of the owl, because its unmerited bad name has created it a host of foes, and doomed it to destruction from all quarters. Some few certainly, from time to time, have been kept in cages and in aviaries. But nature rarely thrives in captivity, and very seldom appears in her true character when she is encumbered with chains, or is to be looked at by the passing crowd through bars of iron. However, the scene is now going to change; and I trust that the reader will contemplate the owl with more friendly feelings, and quite under different circumstances. Here, no rude schoolboy ever approaches its retreat; and those who once dreaded its diabolical doings are now fully satisfied that it no longer meddles with their destinies, or has anything to do with the repose of their departed friends. Indeed, human wretches, in the shape of body-snatchers, seem here in England to have usurped the office of the owl in our churchyards—"*et vendunt tumulis corpora rapia suis.*"

Up to the year 1813, the barn owl had a sad time of it at Walton Hall. Its supposed mournful notes alarmed the aged housekeeper. She knew full well what sorrow it had brought into other houses when she was a young woman; and there was enough of mischief in the midnight wintry blast, without having it increased by the dismal screams of something which people knew very little about, and which everybody said was far too busy in the churchyard at night-time. Nay, it was a well-known fact, that if any person were sick in the neighbourhood, it would be for ever looking in at the window, and holding a conversation outside with somebody, they did not know whom. The gamekeeper agreed with her in everything she said on this important subject; and he always stood better in her books, when he had managed to shoot a bird of this bad and mischievous family. However, in 1813, on my return from the wilds of Guiana. having suffered myself and learned mercy, I broke in pieces the code of penal laws which the knavery of the gamekeeper and the lamentable ignorance of the other servants had hitherto put in force, far too successfully, to thin the numbers of this poor, harmless, unsuspecting tribe. On the ruin of the old gateway, against which, tradition says, the waves of the lake have dashed for the better part of a thousand years, I made a place with stone and mortar about four feet square, and fixed a thick oaken stick firmly into it. Huge masses of ivy now quite cover it. In about a month or so after it was finished, a pair of barn owls came and took up their abode in it. I threatened to strangle the keeper if ever, after this, he molested either the old birds or their young ones; and I assured the housekeeper that I would take upon myself the whole responsibility of all the sickness, woe, and sorrow that the new tenants might bring into the Hall. She made a low curtsy, as much as to say, "Sir, I fall into your will and pleasure." But I saw in her eye, that she had made up her mind to have to do with things of fearful and portentous shape, and to hear many a midnight wailing in the surrounding woods. I do not think that, up to the day of this old lady's death, which took place in her eighty-fourth year, she ever looked with pleasure or contentment on the barn owl, as it flew round the large sycamore trees which grew near the old ruined gateway.

When I found that this first settlement on the gateway had succeeded so well, I set about forming other establishments. This year I have had four broods, and I trust that next season I can calculate on having nine. This will be a pretty increase, and it will help to supply the place of those which, in this neighbourhood, are still unfortunately doomed to death by the hand of cruelty or superstition. We can now always have a peep at the owls, in their habitation on the old ruined gateway, whenever we choose. Confident of protection, these pretty birds betray no fear when the stranger mounts up to their place of abode. I would here venture a surmise, that the barn owl sleeps standing. Whenever we go to look at it, we invariably see it upon the perch, bolt upright; and often with its eyes closed, apparently fast asleep. Buffon and Bewick err (no doubt unintentionally) when they say that the barn owl snores during its repose. What they took for snoring was the cry of the young birds for food. I had fully satisfied myself on this score some years ago. However, in December 1823, I was much astonished to hear this same snoring kind of noise, which had been so common in the month of July. On ascending the ruin, I found a brood of young owls in the apartment.

Upon this ruin is placed a perch, about a foot from the hole at which the owls enter. Sometimes at mid-day, when the weather is gloomy, you may see an owl upon it, apparently enjoying the refreshing diurnal breeze. This year (1831) a pair of barn owls hatched their young, on the 7th of September, in a sycamore tree near the old ruined gateway.

If this useful bird caught its food by day,* instead of hunting for it by night, mankind would have ocular demonstration of its utility in thinning the country of mice; and it would be protected and encouraged everywhere. It would be with us what the ibis was with the Egyptians. When it has young, it will bring a mouse to the nest about every twelve or fifteen minutes. But in order to have a proper idea of the enormous quantity of mice which this bird destroys, we must examine the pellets which it ejects from its stomach in the place of its retreat. Every pellet contains from four to seven skeletons of mice. In sixteen months from the time that the apartment of the owl on the old gateway was cleaned out, there has been a deposit of above a bushel of pellets. The barn owl sometimes carries off rats. One evening I was sitting under a shed, and killed a very large rat as it was coming out of a hole, about ten yards from where I was watching it. I did not go to take it up, hoping to get another shot. As it lay there, a barn owl pounced upon it and flew away with it. This bird has been known to catch fish. Some years ago, on a fine evening in the month of July, long before it was dark, as I was standing on the middle of the bridge, and minuting the owl by my watch, as she brought mice into her nest, all on a sudden she dropped perpendicularly into the water.

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* Though the barn owl usually hunts during the night, still I have repeatedly seen it catching mice in the daytime, even when the sun shone bright.—C. W.

Thinking that she had fallen down in epilepsy, my first thoughts were to go and fetch the boat; but before I had well got to the end of the bridge, I saw the owl rise out of the water with a fish in her claws, and take it to the nest. This fact is mentioned by the late much revered and lamented Mr. Atkinson, of Leeds, in his *Compendium*, in a note, under the signature of W., a friend of his, to whom I had communicated it a few days after I had witnessed it.

I cannot make up my mind to pay any attention to the description of the amours of the owl by a modern writer; at least the barn owl plays off no buffooneries here, such as those which he describes. An owl is an owl all the world over, whether under the influence of Momus, Venus, or Diana.

When farmers complain that the barn owl destroys the eggs of their pigeons, they lay the saddle on the wrong horse. They ought to put it on the rat. Formerly, I could get very few young pigeons till the rats were excluded effectually from the dovecot. Since that took place, it has produced a great abundance every year, though the barn owls frequent it, and are encouraged all around it. The barn owl merely resorts to it for repose and concealment. If it were really an enemy to the dovecot, we should see the pigeons in commotion as soon as it begins its evening flight—but the pigeons heed it not; whereas, if the sparrowhawk or hobby should make its appearance, the whole community would be up at once; proof sufficient that the barn owl is not looked upon as a bad, or even a suspicious, character by the inhabitants of the dovecot.

Till lately a great and well-known distinction has always been made betwixt the screeching and the hooting of owls. The tawny owl is the only owl which hoots; and when I am in the woods after poachers, about an hour before daybreak, I hear with extreme delight its loud, clear, and sonorous notes, resounding far and near through hill and dale. Very different from these notes is the screech of the barn owl. But Sir William Jardine informs us that this owl hoots; and that he has shot it in the act of hooting. This is stiff authority; and I believe it because it comes from the pen of Sir William Jardine. Still, however, methinks that it ought to be taken in a somewhat diluted state; we know full well that most extraordinary examples of splendid talent do, from time to time, make their appearance on the world's wide stage. Thus Franklin brought down fire from the skies—"*Eripuit fulmen cœlo, sceptrumque tyrannis.*" Paganini has led all London captive by a single piece of twisted catgut — "*Tu potes reges comitesque stultos ducere.*" Leibnitz tells us of a dog in Germany that could pronounce distinctly thirty words. Goldsmith informs us that he once heard a raven whistle the tune of the "Shamrock," with great distinctness, truth, and humour. With these splendid examples before our eyes, may we not be inclined to suppose that the barn owl which Sir William shot, in the absolute act of hooting, may have been a gifted bird of superior parts and knowledge (*una de multis*, as Horace said of Miss Danaus), endowed, perhaps, from its early days with the faculty of hooting, or else skilled in the art by having been taught it by its neighbour, the tawny owl? I beg to remark, that though I unhesitatingly grant the faculty of hooting to this one particular individual owl, still I flatly refuse to believe that hooting is common to barn owls in general. Ovid in his sixth book, *Fastorum*, pointedly says that it screeched in his day:—

> "Est illis strigibus nomen; sed nominis hujus
> Causa, quod horrenda stridere nocte solent."

The barn owl may be heard shrieking here perpetually on the portico, and in the large sycamore trees near the house. It shrieks equally when the moon shines and when the night is rough and cloudy; and he who takes an interest in it may here see the barn owl the night through when there is a moon; and he may hear it shriek when perching on the trees, or when it is on wing. He may see it and hear it shriek, within a few yards of him, long before dark; and again, often after daybreak, before it takes its final departure to its wonted resting-place. I am amply repaid for the pains I have taken to protect and encourage the barn owl; it pays me a hundred-fold by the enormous quantity of mice which it destroys throughout the year. The servants now no longer wish to persecute it. Often, on a fine summer's evening, with delight I see the villagers loitering under the sycamore trees longer than they would otherwise do, to have a peep at the barn owl as it leaves the ivy-mantled tower: fortunate for it, if in lieu of exposing itself to danger by mixing with the world at large, it only knew the advantage of passing its nights at home ; for here—

> "No birds that haunt my valley free
> To slaughter I condemn ;
> Taught by the Power that pities me,
> I learn to pity them."

In a manuscript book of observations, written down as they were made, Waterton has several notes on the owls of his park :—

Barn Owl.—The white owls at Walton Hall had a second brood in the year 1823. On the first of December in that year, there was a half-fledged young one in the nest which is in the old ruin on the island.

White Owl.—In the month of November 1828, the white owls in the tower on the island of Walton Hall had a second brood of young ones.

On the 26th of June 1834, the barn owl was mousing in the meadow betwixt seven and nine in the morning, and bringing the mice to her nest in the old ivy tower. Whilst on wing, looking for mice, it repeatedly hovered in the air like the windhover hawk.

On the 30th of June 1834, the barn owl was mousing in the meadow till half-past ten in the morning, although the sun was shining in a cloudless sky.

Nearly the whole of the same day, a bat was hawking for flies under the oak trees which border the lake.

White, or Barn Owl.—I had a fine brood of them this year (1831), in the old ivy tower, at the usual time, viz., July ; and on the 7th of September 1831, another pair of barn owls hatched their young in the hollow sycamore tree.

May 24, 1862.—This morning, with John Ogden, the gamekeeper, I examined the inside of the large old oak stump on the hill, near the white hunting gate at the water side. In it I found a jackdaw's nest containing five eggs, a barn owl's nest with young ones, and several dead mice and a half-grown rat, and also a red start's nest with six eggs in it.

THE TAWNY OWL

Of all our British owls, this is by far the greatest favourite with me, and I take great interest in its preservation. Whilst temperance societies are rising up in all directions to warn the thirsty sinner that gin and godliness are not in unison, I could wish that some benevolent person would instruct the ignorant on the true nature and habits of many poor dumb animals, which undergo a perpetual persecution, under the erroneous idea that they are inimical to the interests of man. I would willingly go twenty miles on foot, over the flintiest road, to hear some patroness of infant schools tell her little pupils that, now-a-days, there are no old women who ride through the air on broomsticks, with a black cat in their laps; that ravens, owls, and magpies have long since dropped all dealing with people in the other world; and that hedgehogs are clearly proved never to have sucked a cow, though our silly farmers, almost to a man, would fain persuade us that these little harmless creatures are guilty of the preposterous act. Notwithstanding the apprehensions of the dairymaid, I now and then venture to purchase a captive hedgehog, and turn it into the park, there to live and die in peace. It was but the other day that a neighbouring young lady complained to me of an owl which had been hooting, for three or four successive nights, far too near her bedroom windows, and she wished indeed that it were shot. I startled as she uttered this, for it instantly occurred to me that the bird of which she complained might possibly be one which was bred here last summer, and that its propensity to night-errantry had brought it into a scrape. So I tried to persuade her that nothing but sheer curiosity could have induced the owl to take the undue liberty of peeping in at her window; and I was sure that it could have seen nothing there to displease it. I have never heard an owl, either in Europe or in America, that utters sounds so nearly resembling the human voice, as those which our tawny owl sends forth. Here, where all is still, and everything to be found that is inviting to the feathered race, this bird will hoot at intervals throughout the day, both in cloudy and in sunny weather. Were you to pronounce the letter O in a loud and very clear tone of voice, and then, after a short pause, repeat the same letter in a drawling, tremulous accent, you would have a tolerably just idea of the hooting of the tawny owl. It will sometimes produce a sharp cry, which sounds not unlike the word quo-ah; both male and female utter this cry.

Though the tawny owl generally takes up its abode in dark and gloomy woods, still it occasionally settles very near the habitation of man. In a hollow sycamore, within a dozen yards of this house, there had been the nest of a tawny owl, time out of mind. Here the birds would have remained to this day, had not a colony of jackdaws, which I had encouraged by hanging up wooden boxes for them in the next tree, actually driven the owls away, in order that they might get possession of the hole. Before this misfortune befell them, a servant once robbed their nest, and placed the young ones in a willow cage, not far from the hollow tree. The parent birds brought food for their captive offspring, but, not being able to get it through the bars of the cage, they left it on the ground on the outside. This food consisted of mice, rats, small birds, and fish, which I myself saw and examined. At the present time I have a tawny owl sitting on four eggs, in a large ash tree, close to a much-frequented summer-house. The male stays in a spruce fir tree, and hoots occasionally throughout the day. I have found, by dissecting the ejected bolus of this species, that it feeds copiously upon different sorts of beetles. Were I just now requested to find a hollow tree in the woods of the neighbourhood, I should say that it were useless to go in quest of one, so eager have the proprietors been to put into their pockets the value of every tree which was not "making money," according to the cant phrase of modern wood-valuers. No bird has felt this felling of ancient timber more than the tawny owl. To the extreme scarcity of breeding-holes, and to the destructive measures of the gamekeepers, I attribute the great rarity of this bird in our own immediate neighbourhood; add to this, that it sometimes rests on the ground, under covert of a bush, where it is flushed and killed by sportsmen while in pursuit of woodcocks. Were it not for my park, I believe that the tawny owl would be extinct in this part of Yorkshire. Some ten years ago, it was so scarce that I seldom heard its voice. Once or so in the winter, I could catch the hooting of a solitary owl as I was after the midnight poachers, but that was all, and then whole weeks would elapse before I could hear the pleasing notes again. At present, however, this favourite *warbler* is on the increase. He who befriends the tawny owl, and loves to have it near his mansion, may easily make a habitation for it, provided there be a wood at hand, with full-grown ash trees in it. But no wood, no tawny owl; *Point d'argent, point de Suisse*, as the saying has it. On examining his ash timber, he will occasionally find a tree with a particular fungus on it—yellow when growing and black when ripe. But more of this, perhaps, another time, should I ever offer to the public a short paper on the cause and prevention of *dry rot:* a misnomer, by the way. When this fungus falls to the ground, after the rains of winter have set in, the bark on which it has grown shows such faint traces of a change, that an eye not accustomed to look for these things would scarcely notice the distempered part. By means, however, of a hammer and a chisel applied to the spot, you are soon let into the secret; and you find the wood, in the quarter where the fungus appeared, of a texture soft and altered, and some what approaching to that of cork. Here, then, you can readily form an excavation large enough to contain a pair of tawny owls. In the year 1831, I pointed out to Mr. Ord (the elegant and scientific biographer of poor Wilson) just such an ash tree as that which I have described. It was above two feet in diameter, and there was a fungus on the western side of it. After I had excavated nearly half way through the tree, I found a portion of the wood more tainted than the rest; so, putting a longer handle into the socket of the chisel, I worked in the direction which it took, until, most unexpectedly, I came to the nest of a titmouse. The bird, like the Portuguese at Mindanao, had evidently taken possession of the tenement through an aperture from the eastward, now closed up with living bark; while I, like the Spaniards, had arrived at the same place, by pursuing a course from the westward. If I might judge by the solid appearance of the bark, I should say that, some fifty or sixty years ago, a branch must have been blown off from this eastern side of the bole; and there the rain had found an entrance, and had gradually formed a cavity. The titmouse, judging it a convenient place, had chosen it for her nidification; and, probably, had resorted to it every year, until the growing wood at the mouth of the orifice had contracted the entrance, and, at last, closed it up for ever—

leaving the nest hermetically sealed in the bole of the tree. A thousand people might gaze on this tree in passing by, and still not see a blemish. I myself can just perceive it, by means of a few concentrated lines still visible on the bark; but, had not the discovery of the nest drawn my attention to the place, I should never have perceived that the eastern part of the tree had formerly received an injury. Mr. Ord was enraptured at the exposition of the ornithological treasure, and noted down in his pocket-book everything worthy of record. The tree still stands; and long may it stand, to gratify the curiosity of naturalists. Last year a pair of barn owls reared their young in it, and just now there are eggs in the same place. I made another excavation, in an ash tree about two hundred yards from this; and, last summer, it gave me an increase of three tawny owls. Throughout the winter, I could at any time find them reposing in some neighbouring fir trees. The tawny owl generally lays four snow-white eggs in the same hole which it had chosen for its winter quarters. I am satisfied in my own mind that no owl in the world ever gathers materials to form the lining of its nest. Indeed, there is no necessity whatever for it to take that trouble; nature makes a sufficient provision for the lining of the hole to which the owl resorts, long before the breeding-time sets in. Every species of this bird ejects from the stomach all the indigestible parts of the food, in the shape of a dark-coloured oblong bolus, which, when dried, is soon reduced to fragments by the superincumbent body of the bird. On this the female lays her eggs; nor could she well procure a better or a softer substance for them.

Trifling as an attention to the feather tribe may seem, still it has its sweets for those who love to lead a rural life. I generally observe that visitors who come here are always anxious to have a sight of the birds which take up their abode in this sequestered valley; and they listen with evident signs of pleasure to the cries of the nocturnal wanderers of the air. It is not above a week ago that I heard the heron screaming, the wigeon whistling, the barn owl screeching, and the tawny owl hooting, in rapid succession. The moon was playing on the water at the time, and the air was nearly as warm as summer. I thought of times long past and gone, when I was enjoying nature's richest scenery in the interminable forests of Guiana.

THE CIVETTA, OR LITTLE ITALIAN OWL.

THIS diminutive rover of the night is much prized by the gardeners of Italy for its uncommon ability in destroying insects, snails, slugs, reptiles, and mice. There is scarcely an out-house in the gardens and vineyards of that country which is not tenanted by the civetta. It is often brought up tame from the nest; and in the month of September is sold for a dollar to sportsmen, who take it with them in their excursions through the country, to look for larks and other small birds. Perched on the top of a pole, it attracts their notice, and draws them within the fatal range of gunshot by its most singular gestures; for, standing bolt upright, it curtsies incessantly, with its head somewhat inclined forwards, whilst it keeps its eyes fixed on the approaching object. This odd movement is peculiar to the civetta alone. By it the birds of the neighbourhood are decoyed to their destruction. Hence its value to the ranging sportsmen. Often and anon, as the inhabitants of Rome pass through the bird-market at the Pantheon, they stop and look and laugh at this pretty little captive owl, whilst it is performing its ridiculous gesticulations.

Its flesh is relished by the natives of Italy. You may see the civetta, plucked and ready trussed for the spit, on the same stall at which hawks, crows, jackdaws, jays, magpies, hedgehogs, frogs, snails, and buzzards are offered for sale to the passing conoscenti, who frequent the bird market in quest of carnal delicacies. The inhabitants of this country are apparently blessed with stomachs as keen and strong as that of my old black friend Daddy Quasshi, who could fatten on the grubs of hornets and on stinking fish. Indeed, it would appear from what I have seen, that scarcely anything which has had life in it comes amiss to the Italians in the way of food, except the Hanoverian rat, for I could often see this voracious and needy intruder lying dead in the streets and trodden under foot.

Thinking that the civetta would be peculiarly useful to the British horticulturist, not, by the way, in his kitchen, but in his kitchen-garden, I determined to import a dozen of these birds into our own country. And still, said I to myself, the world will say it was a strange whim in me, to have brought owls all the way from Italy to England; seeing that owls, ay, and hawks too, are by no means scarce in our palaces, and in Parliament, and on the magisterial benches. Be this as it may, I agreed with a bird-vender in the market at the Pantheon for a dozen young civettas; and having provided a commodious cage for the journey, we left the Eternal City on the 20th of July 1842, for the land that gave me birth.

At Genoa, the custom-house officers appeared inclined to make me pay duty for my owls. "Gentlemen," said I, "these birds are not for traffic; neither are they foreigners: they are from your own dear country, *la bellissima Italia*, and I have already strong reason to believe that they are common in Genoa, so that they can well be spared." The custom-house officers smiled as I said this, and then they graciously allowed me and my owls to proceed to the hotel, without abstracting a single farthing from my pocket. We passed through the sunny regions of Piedmont with delight, and over the snowy summit of Mount St. Gothard without any loss, and thence we proceeded northward, through Lucerne to Basle. Here Monsieur Passavant, the banker, a wormwood-looking money-monger, seemed determined that myself and my owls, and the rest of my family, should advance no farther. Having lost my letter of credit in the late shipwreck, and there not having been time, after my return to Rome and my short stay there, to receive another from London, I was furnished, by the bank of Prince Torlonia, with a very warm and complimentary letter of introduction to Passavant of Basle, in case I might fall short of money on my way home; and Prince Canino (Charles Bonaparte), whom I accidentally met in Genoa, gave me another of the same tenour. But all would not do. I only wanted £12, which, with what I had by me, would have enabled me to reach Cologne, where I could have got any supply of money from the good landlord of the Hôtel du Rhin. Passavant, to whom I had presented the two letters, and to whom I had given a full account of the unfortunate shipwreck, could not possibly comprehend how I could have the temerity to travel without a regular letter of credit. I offered him my draught on Denison, of London. He refused to take it. Would he accept my watch worth forty guineas, in pledge, till my bill should be honoured? No. He looked at me, and then at the letters, and then at me again; and said there was something equivocal in the one from Prince Torlonia's bank. He would not advance me a single sous. On making my retiring bow, I told him that, as I was in the habit of writing occasionally on natural history, I would make honourable mention of his great liberality in my next publication, and that, in the meantime, I would send Torlonia a full account of our interview. I should have stuck fast for money in Basle, had not Lord Brougham's brother (William Brougham, Esq.) luckily arrived in the town that very day. He immediately advanced me an ample supply. All went well after this, until we reached Aix-la-Chapelle. Here, an act of rashness on my part caused a serious diminution in the family. A long journey and wet weather had tended to soil the plumage of the little owls, and I deemed it necessary that they, as well as their master, should have the benefit of a warm bath. Five of them died of cold the same night. A sixth got its thigh broke, I don't know how; and a seventh breathed its last, without any previous symptoms of indisposition, about a fortnight after we had arrived at Walton Hall.

The remaining five have surmounted all casualties, having been well taken care of for eight months. On the 10th of May, in the year of our Lord 1842, there being abundance of snails, slugs, and beetles on the ground, I released them from their long confinement. Just opposite to the flower-garden, there is a dense plantation of spruce fir trees. Under these, at intervals, by way of greater security, I placed the separated parts of two dozen newly-killed rabbits, as a temporary supply of food; and at seven o'clock in the evening, the weather being serene and warm, I opened the door of the cage. The five owls stepped out to try their fortunes in this wicked world. As they retired into the adjacent thicket, I bade them be of good heart; and although the whole world was now open to them, "where to choose their place of residence," I said, if they would stop in my park I would be glad of their company, and would always be a friend and benefactor to them.

THE RAVEN.

"Sæpe sinistra cavâ prædixit ab ilice cornix."—VIRG.

IT is now about three and twenty years since the last raven which frequented this neighbourhood either lost its life for supposed offences against the game-laws, or found it expedient to retire to some distant part, where it could live unmolested and rear its brood in safety. Not far from hence, in the middle of a wood, there was a large oak tree, the bole of which, by its thickness and its towering height, had set every idling boy at defiance time out of mind. On a huge limb of this giant son of earth, a pair of ravens annually renewed their nest and reared a brood of young. At last, in evil hour, a restless village cobbler got a scheme into his head to plunder the establishment, and he forthwith engaged the blacksmith to make him some iron spikes, which were to be affixed to his feet, in order to facilitate his ascent into the tree. With this provision one Sunday morning, of all other days in the week, the ragged rascal bent his unhallowed steps towards the tree which contained the ravens' nest. By means of the spikes he was enabled to overcome the difficulties hitherto deemed insurmountable by every passing vagabond, who had cast a longing eye upon the treasure which was lodged in the tree. He mounted aloft, and robbed the nest of its young. From that unlucky day the ravens were never seen to alight again upon their once favourite tree. But they still lingered in the neighbourhood, and as they approached the eastern hill, which forms one side of this valley, I could hear their hoarse and hollow croaking long before I could see the birds themselves.

How different are the habits of the rooks with regard to their place of incubation! You may plunder their nest annually, and annually they will return to it and perform their incubation in it. So will the starling and the jackdaw. But the carrion crow abandons her nest for ever after the breeding season, no matter whether it has been plundered or not. It may here be remarked that the rook, the starling, and the jackdaw, are always gregarious; the raven and the carrion crow solitary birds most parts of the year.

Some few years after the ravens had been plundered by the cobbler, either the same couple or a stranger pair built their nest in an oak of moderate size, within a few yards of an ornamented sheet of water, and about two miles distant from the wood to which they had resorted in better times. The gentleman's gamekeeper, like all others of that sanguinary set, was on the look-out, and on seeing the nest, he fancied that he had discovered a den of thieves who had settled there to pilfer poultry, and to worry his master's hares and pheasants by the dozen. The poor female was shot down dead to the ground; but, fortunately, the male escaped assassination. He tarried for a day or two in the environs, and then deserted us for ever. From the day of his disappearance, I have never seen or heard a wild raven in this part of the country, and times are now so changed for the worse, that I despair of ever seeing again this fine British bird in any of our woods.

He who wishes to study the habits of the raven in its own native haunts must not look for him here. He must bend his steps to those parts of Yorkshire where the bird is still allowed to exist. There is a brood of ravens every season on the rocks near Flamborough Head; and, no doubt, others are to be found, at certain intervals, along the vast extent of that bold and rock-bound shore. The nest is chiefly made of the same materials as that of the carrion crow, with the addition of a few dried weeds which grow on the coast. I have never taken the eggs, but if I may judge from one in my possession, the egg is remarkably small for the size of the bird; and in colour, it bears a close resemblance to the egg of the carrion crow. The young, like those of all the pie tribe, are hatched blind. On leaving the nest their feathers have a brownish cast; but after the first moulting, the birds acquire that glossy richness of plumage which is so conspicuous in the raven.

Though the naturalist will feel but little interest in the habits of a bird which is brought up as a pet, under the immediate inspection of man; still I cannot help remarking here, that of all known birds (the gray red-tailed parrot of Africa not excepted), there is none to be found so docile, so clever, and so amusing as the raven. I bought a young one about three years ago, at the well-known village of Flamborough, and I called it Marco. Marco could do everything.

He was as playful as a kitten; he showed vast aptitude in learning to talk, and he was so correct an imitator of sounds, that I had every hope of teaching him the tune which Goldsmith informs us he heard a raven sing with "great distinctness, truth, and humour." Marco was fond of seeing a carriage approach the house. He would attend company on their arrival at the bridge, and wait near the gate until their return, and then he would go part of the way back with them. He was a universal favourite, notwithstanding that at times his evil genius prompted him to commit almost unpardonable excesses; so much so, that I often said to him in the words of the poet—

> "Difficilis—facilis, jucundus acerbus es idem."
>
> "In all thy humours, whether grave or mellow,
> Thou art such a touchy, testy, pleasant fellow;
> Hast so much wit, and mirth, and glee about thee,
> There is no living with thee, nor without thee."

One day he took a sudden dislike to an old duck, with which, till then, he had been upon the best of terms, and he killed her in an instant. The coachman and Marco were inseparable companions; but at last they had a serious and a fatal quarrel. Marco bit him severely in the thumb, upon which this ferocious son of the whip seized the bird by the throat and deliberately strangled it. I learned from poor Marco, that birds will occasionally do that which I had always supposed to be solely confined to quadrupeds. When Marco could find a heap of sand, or when there was snow upon the ground, he would throw himself on his back and rub himself on the sand or snow, just as dogs are wont to do when they fall in with carrion.

No bird in the creation exhibits finer symmetry than the raven. His beautiful proportions and his glossy plumage are calculated to strike the eye of every beholder with admiration. He is by far the largest of all the pie tribe in Europe; and, according to our notion of things, no bird can be better provided with the means of making his way through the world; for his armour is solid, his spirit unconquerable, and his strength surprising.

Necromancers of old were noted for their attention to the movements of the raven; and they are said to have counted no less than sixty-five different inflexions of his voice. His sable robe and hollow croaking seem to have rendered him of vast importance in those days; when old women were known to travel through the air on broom-staffs, and when the destiny of man was frequently foretold by the flight of birds. Nay, in our own times, the raven has not quite lost all claim to the knowledge of things to come; for good farmer Muckdrag's wife, whilst jogging on with eggs to market, knew that there was mischief brewing as soon as she had heard a raven croak on the unlucky side of the road.

"That raven on the left-hand oak,
Curse on his ill-betiding croak,
Bodes me no good."

She had scarcely uttered this, when down came her old stumbling mare to the ground. Her every egg was smashed to atoms; and whilst she lay sprawling on the ruins of her oological speculation, she was perfectly convinced, in her own mind, that the raven had clearly foreseen her irreparable misadventure. Our royal sovereign, good King Arthur of ancient days, was known to have passed into the body of a raven. Cervantes tells us of a tradition, current through the whole of Great Britain, that this much-beloved monarch was changed into a raven by the art of witchcraft; and that in the due course of time he would be again in possession of his crown and sceptre. I don't care how soon. Cervantes adds, that from the day on which the change took place, no Englishman has ever been known to kill a raven, and that the whole British nation is momently expecting its king's return. I should like to see King Arthur's face, when his loving subjects tell him of our national debt and show him the civil list. Methinks his long-lost majesty will groan in spirit, when he learns that the first was a present from Dutch William, and the second a donation to the country by the cormorant-traitors who had driven away our last Catholic king, because he had proclaimed universal liberty of conscience, and had begun to question their right to the stolen property.

The ancients were of opinion that the raven lived to an extreme old age. I do not exactly see how the longevity can be proved, whilst the bird roves at liberty from place to place, far beyond the reach of man; and, indeed, the difficulty of proof is noways diminished when the raven is brought up tame in civilised society; for its perpetual bickerings with stranger dogs, and its incautious approach to the heels of vicious horses, seldom fail, sooner or later, to bring it to an untimely end. Still, I should be the last man in the world to question the veracity of remote antiquity, upon the mere strength of hasty surmise. Those who are gone before us may possibly have had better opportunities of ascertaining the longevity of birds, than any which we now possess.

I never tire of reading the old fables in which birds are introduced. Notwithstanding the impossibilities and absurdities which are manifest in those rich effusions of ancient wit and humour, still I can always find much in them to convince me that the writers of the olden times were no strangers to the real habits of birds. Ovid, who flourished some two thousand years ago, tells of a remarkably old raven. It might indeed have been a companion for Methuselah himself. When Medea, that wicked, wanton, wandering witch, had made up her mind to restore her aged father to the bloom of youth (which was contrary to the order of the Fates), she boiled a pot of herbs, and threw into it the bones and carcass of an owl, together with a few slices of wolf's flesh, and the shell and inside of a fresh water-turtle. To these she added the beak and head of a raven, above nine hundred years old.

> —— "Quibus insuper addit
> Ora, caputque, novem cornicis sæcula passæ."

Thrice she soused her father over head in water, and thrice she held him to the fire, and thrice she rubbed him well with brimstone.

> "Terque senem flammâ, ter aquâ, ter sulphure lustrat."

She then applied her lancet to his jugular, and having let out all the old man's blood, she replaced it with broth made from the ingredients which she had stewed down for the operation. This did the job, and up jumped her father Æson a spruce, dashing young fellow in the prime of life, with a fine black beard in lieu of a white one. From this operation, we might surmise that transfusion of blood in surgery is no modern invention.

Pity it is that the raven, a bird of such note and consequence in times gone by, should be exposed to unrelenting persecution in our own days of professed philanthropy. His noble aspect, his aërial evolutions, and his wonderful modulations of voice, all contribute to render him an ornament to any gentleman's park. He can scarcely be styled a bird of rapine, in the strict sense of the word; for, in the few inland parts of this country where he is still protected, we hear of no very alarming acts of depredation on his part. A stray chicken or so, during the time that he is obliged to feed his young—a rickety lamb which would never make mutton—a leveret started from her seat by the village mole-catcher—make up nearly the whole amount of the raven's plunder. For my own part, I would freely give him these; ay, and a dozen pheasants annually to boot, if he would but visit us again, and once more attempt to take up a permanent abode amongst us.

THE CARRION CROW.

"Inter aves albas, vetuit consistere corvum."—Ovid, *Met.*

"The crow was order'd not to hold a place
'Mid whiter favourites of the feather'd race."

THIS warrior bird is always held up to public execration. The very word carrion, attached to his name, carries something disgusting with it; and no one ever shows him any kindness. Though he certainly has his vices, still he has his virtues too; and it would be a pity if the general odium in which he is held should be the means, one day or other, of blotting out his name from the page of our British ornithology. With great propriety, he might be styled the lesser raven in our catalogue of native birds; for, to all appearance, he is a raven; and I should wish to see his name changed, were I not devoutly attached to the nomenclature established by the wisdom of our ancestors.

The carrion crow is a very early riser; and long before the rook is on the wing, you hear this bird announcing the approach of morn, with his loud hollow croaking, from the oak to which he had resorted the night before. He retires to rest later than the rook; indeed, as far as I have been able to observe his motions, I consider him the first bird on wing in the morning, and the last at night, of all our non-migrating diurnal British birds.

When the genial voice of spring calls upon him to prepare for the continuation of his species, the carrion crow, which, up to this period, has been wary, shy, and cautious, now, all of a sudden, seems to lose these qualities; and, regardless of personal danger, sometimes makes his nest within a hundred yards of the habitation of man, upon a tree, at once the most conspicuous and exposed. To us, who know so little of the economy of birds, this seems a strange phenomenon; nor can any penetration of which we may be possessed enable us to comprehend the true meaning of this change from timidity to boldness, from distance to proximity, from wariness to heedlessness, in so many different species of birds. One would suppose that they would be more shy and distant at this interesting period; and, in imitation of the cat, the rabbit, and the fox, conceal as much as possible the place of their retirement. The rook will sometimes build a poor and slovenly nest, but this is never the case with the carrion crow: this bird invariably makes its nest firm and compact. A writer, who signs himself A. B. C., in the *Magazine of Natural History* (vol. v., p. 590) tells us that some of the nests have such deep beds of wool, moss, and cows' hair, that the eggs seemed quite lost; and might have given the professor his erroneous idea of their being covered with those substances to keep them warm." Oh, fie! How is it possible that the eggs should seem quite lost, when the lining on which they lie is so perfectly smooth that they appear as though they were in a basin? Not a single particle of the lining of the nest is ever seen betwixt the eggs and the eye of him who has ascended the tree to take a view of them. I challenge any naturalist to bring proof positive which can invalidate this assertion. Verily, when the professor climbs up to crows' nests this ensuing spring, he will agree with Ovid, that *Causa patrocinio, non bona, pejor erit.* The carrion crow never covers its eggs on leaving the nest; they are generally from three to five, and sometimes even six, in number—wonderfully irregular in size and shape and colour. This irregularity is so very apparent, that on examining the nests of some carrion crows with eggs in them, you might fancy to yourself that the rook had been there, to add one of hers to those already laid by the original owner. This bird never builds its nest in hedges, but will construct it in any of our forest trees; and, with me, it seems to give the preference, in general, to the oak, the spruce fir, and the Scotch pine. The young are hatched naked and blind, and remain blind for some days.

Our ancestors, no doubt, bestowed the epithet "carrion" upon this bird, in order to make a clear and decided distinction between it (whose flesh, they probably supposed, was rank and bad) and the rook, the flesh of which was well known to be good and wholesome food. Perhaps, too, in those days of plenty and of less trade, the carrion crow had more opportunities of tasting flesh than it has in these our enviable times of divers kinds of improvement. Were a carrion crow of the present day to depend upon the finding of a dead cow or horse for its dinner, it would soon become an adept in the art of fasting by actual experiment; for no sooner is one of these animals, in our neighbourhood, struck by the hand of death, than its hide is sent to the tan-pit, and its remains are either made into soup for the hunt, or carefully buried in the dunghill, to increase the farmer's tillage. The poor crow, in the meantime, despised and persecuted for having an inclination to feed upon that of which, by the by, the occupier of the soil takes good care that he shall scarcely have a transient view, is obliged to look out for other kinds of food. Hence you see it regularly examining the meadows, the pastures, and the corn-fields, with an assiduity not even surpassed by that of the rook itself. We labour under a mistake in supposing that the flesh of the young carrion crow is rank and unpalatable. It is fully as good as that of the rook! and I believe that nobody who is accustomed to eat rook-pie will deny that rook-pie is nearly, if not quite, as good as pigeon-pie. Having fully satisfied myself of the delicacy of the flesh of young carrion crows, I once caused a pie of these birds to be served up to two convalescent friends, whose stomachs would have yearned spasmodically had they known the nature of the dish. I had the satisfaction of seeing them make a hearty meal upon what they considered pigeon-pie. The carrion crow will feed voraciously on ripe cherries; and, in the autumn, he will be seen in the walnut trees, carrying off, from time to time, a few of the nuts. With the exception of these two petty acts of depredation, he does very little injury to man during nine or ten months of the year; and if, in this period, he is to be called over the coals for occasionally throttling an unprotected leveret or a stray partridge, he may fairly meet the accusation by a set-off against it in his account of millions of noxious insects destroyed by him. However, in the spring of the year, when he has a nest full of young to provide for, and when those young begin to give him broad hints that their stomachs would like something of a more solid and substantial nature than mere worms and caterpillars, his attention to game and poultry is enough to alarm the stoutest-hearted squire and henwife. These personages have long sworn an eternal enmity to him; and he now, in his turn, visits, to their sorrow, the rising hopes of the manor with ominous aspect; and he assaults the broods of the duck-pond, in revenge, as it were, for the many attempts which both squire and henwife have made to rob and strangle him.

In 1815, I fully satisfied myself of his inordinate partiality for young aquatic poultry. The cook had in her custody a brood of ten ducklings, which had been hatched about a fortnight. Unobserved by anybody, I put the old duck and her young ones in a pond, nearly three hundred yards from a high fir tree in which a carrion crow had built its nest: it contained five young ones almost fledged. I took my station on the bridge, about one hundred yards from the tree. Nine times the parent crows flew to the pond, and brought back a duckling each time to their young. I saved a tenth victim by timely interference. When a young brood is attacked by an enemy, the old duck does nothing to defend it. In lieu of putting herself betwixt it and danger, as the dunghill fowl would do, she opens her mouth and shoots obliquely through the water, beating it with her wings. During these useless movements, the invader secures his prey with impunity.

I would recommend all henwives in early spring, to place their ducks' eggs under a hen. At that time of the year there are no weeds on ponds sufficiently high to afford shelter to the young, when they are led on to the water by their real mother. If the first sitting of eggs be taken from a duck, she will generally lay a second time, and that will be at a period when the water abounds with weeds, amongst which the young brood can skulk, and screen itself from the watchful eye of an enemy.

From what I have written, the reader may be able to form a pretty correct idea of the habits of the carrion crow; and he will perceive that, for nearly ten months of the year, this bird, far from being considered an enemy, ought to be pronounced the friend of man.

Let us now examine if the attacks of this bird on domestic poultry cannot be easily counteracted, and whether its assiduous attention to the nests of pheasants and of partridges is of so alarming and so important a nature as to call for its utter extermination from the land. For my own part, I acknowledge that I should lament his final absence from our meadows and our woods. His loud and varied notes at early dawn, and again at latest eve, are extremely grateful to me; and many an hour of delight do I experience when, having mounted up to the top of a favourite aged oak which grows on the border of a swamp, I see him chasing the heron and the windhover through the liquid void, till they are lost in the distance. Then, again, how eager is his pursuit! how loud his croaking! how inveterate his hostility! when he has espied a fox stealing away from the hounds, under the covert of some friendly hedge. His compact and well-built figure, too, and the fine jet black of his plumage, are, in my eye, beautifully ornamental to the surrounding sylvan scenery.

A very small share of precaution on the part of the henwife would effectually preserve her chickens and her ducklings from the dreaded grasp of the carrion crow. Let her but attend to the suggestion of setting her early ducks' eggs under a hen, and let her keep that hen from rambling, and she will find her best hopes realised. As for the game, I verily believe that, in most cases, the main cause of the destruction of its eggs may be brought home to the gamekeeper himself. This unrelenting butcher of our finest and rarest British birds goes, forsooth, and makes a boast to his master that he has a matter of five hen pheasants hatching in such a wood, and as many partridges in the adjacent meadows. This man probably never reflects that, in his rambles to find the nests of these birds, he has made a track, which will often be followed up by the cat, the fox.

and the weasel, to the direful cost of the sitting birds; and, moreover, that by his own obtrusive and unexpected presence in a place which ought to be free from every kind of inspection, whether of man or beast, he has driven the bird precipitately from her nest, by which means the eggs are left uncovered. Now, the carrion crow, sweeping up and down in quest of food, takes advantage of this forced absence of the bird from her uncovered eggs, and pounces down upon them. He carries them off, not in his bill but on the point of it, having thrust his upper mandible through the shell. Had there been no officious prying on the part of the keeper, it is very probable that the game would have hatched its brood in safety, even in the immediate vicinity of the carrion crow's nest; for instinct never fails to teach the sitting bird what to do. Thus, in the wild state, when wearied nature calls for relaxation, the pheasant first covers her eggs, and then takes wing directly, without running from the nest. I once witnessed this, and concluded that it was a general thing. From my sitting-room, in the attic storey of the house, I saw a pheasant fly from her nest in the grass, and, on her return, she kept on wing till she dropped down upon it. By this instinctive precaution of rising immediately from the nest on the bird's departure, and its dropping on it at its return, there is neither scent produced nor track made in the immediate neighbourhood, by which an enemy might have a clue to find it out and rob it of its treasure. These little wiles are the very safety of the nest, and I suspect that they are put in practice by most birds which have their nest on the ground. To these wiles, in part (before gangs of forty or fifty nocturnal poachers desolated this district), I attributed the great increase of my pheasants, though they were surrounded by hawks, jays, crows, and magpies, which had all large families to maintain and bring up in the immediate neighbourhood.

Keepers may boast of their prowess in setting traps (and, in testimony of their success, they may nail up the mutilated bodies of carrion crows against the kennel wall); but I am of opinion that, if the squire could ever get to know the real number of pheasants and hares which have been killed or mutilated in those traps, he would soon perceive that he had been duped by the gamekeeper; and that henceforth he would forbid him to enter the covers in the breeding season, for the purpose of destroying the carrion crows. The frequent discharge, too, of the keeper's gun, though it may now and then kill or wound a carrion crow, still will infallibly drive away the game in the end, and oblige it to seek some more favoured and sequestered spot. As to the setting of poison—a practice so common with these worthless destroyers of crows, hawks, magpies, jays, and ravens, which they are pleased to style feathered vermin—it is a well-known fact that foxes, ducks, dogs, hogs, and pheasants are all liable to fall a prey to the noxious bait. Often has the disappointed vulpine sportsman to mark down a blank day in his calendar, on account of his quarry having supped upon what was laid to kill the carrion crow; and I have reason to believe that the fox sometimes loses his life by feeding on carrion crows which have died by poison.

If we were to sum up, on one side, the probable number of pheasants and partridges destroyed during one season by the carrion crow; and, on the other, reckon up how many times the keeper has disturbed the game by going in search of this bird, and thus exposed the nests of partridges and pheasants to certain destruction by vermin of all kinds; and then, if we take into the account the many heads of game which the keeper had killed in his steel traps and rabbit-snares, we should conclude, I think, that in the long run the game actually suffers more from the keeper, in his attempts to destroy the crow, than it really does from the crow itself, while catering for its young. Indeed, I have made out the account myself; and, finding the balance to be against the keeper, I have renewed the order which I gave to his predecessor, never, upon any score, to persecute what is commonly called flying vermin. Thus the partridges and pheasants here, during the time of incubation, are abandoned to their own discretion; and I judge from what I have seen, that old Dame Nature, without any interference on my part, will kindly continue to point out to these birds proper places where to lay their eggs and rear their young; and, moreover, I am confident she will teach them, by her own admirable and secret process, how to elude the prying scrutiny of the carrion crow. Should, however, the country squire, whose eye is seldom quite closed to the advantages derived from a well-stored autumnal larder; should he, I say, not have sufficient faith in the dame's protecting care, it will be some consolation to him to be informed that, when birds of the game species lose their first eggs, they seldom fail to have a second hatch, which will be sure to find ample security from its enemies, in the abundant growth of summer grass and corn.

The carrion crow is evidently gregarious at times, in the autumnal and winter months: I have sometimes counted fifty of them together. Unlike the rook, these birds never become bare of feathers at the base of the bill.

The vulgar remark, that a carrion crow can smell gunpowder, ought to be received with explanation. The natural wariness of this bird at most seasons of the year, and the perpetual persecution it has to undergo from man, are the causes of its keeping a very sharp look-out; and it takes flight at the earliest approach of the gunner; hence the surmise that it smells the powder (which might certainly be smelled after the discharge of the gun, provided the crow were to leeward); but then the loud report would cause it to take instant flight, and it would be far away long before the scent from the burnt gunpowder could have any chance of reaching its olfactory nerves, though they were (and, for aught I know, they are) as sensible as those of the vulture.

I turn loose on the public, from my park, about threescore carrion crows per annum; which no doubt are considered as a dangerous lot of rascals by the good folks of this neighbourhood. I beg to say that I have written this paper expressly to calm the fears of sportsmen, who may imagine that I do an evil deed in befriending a tribe of birds hitherto considered, by common consent, in no other light than that of plundering rogues and vagabonds. If they will do me the honour to read this little history of my warrior bird, I trust they will be satisfied that he is not such a desperate thief as he is generally imagined to be; and furthermore, upon due consideration, they will agree with me that, when the keeper is abroad with his gun, his poison, and his traps, their game may be said with great truth to be exposed to much worse company than that of the carrion crow.

How closely Waterton had observed this bird is shown by his numerous notes in pocket-books about it, of which the following are a few :—Carrion Crow—sometimes gregarious.—On the 11th of January 1830, I counted fifty carrion crows going to roost.

Sept. 5, 1850.—This afternoon, I observed carrion crows keeping company with rooks for the first time this season.

Oct. 16, 1850.—Counted fifty-five carrion crows congregated in the park.

On the 1*st of March* 1851, at half-past five in the afternoon, I counted, with the aid of the telescope, sixty-four carrion crows (not rooks) at the water's edge just below the echo.

May 11, 1853.—Seventy or eighty carrion crows congregated in the park, and were very vociferous.

Dec. 15, 1863.—The carrion crows have now congregated here for the winter. This evening I counted more than a hundred of them preparing to roost in the park for the night. Jenny Wren was in fine song.

THE ROOK'S BILL.

> "Quæ causa indigna serenos
> Fædavit vultus, aut cur hæc nuda patescunt?"

I have more than once nearly made up my mind to sit me down, some dismal winter's evening, and put together a few remarks on the habits of the rook. His regular flight in congregated numbers over my house in the morning to the west, and his return at eve to the east, without the intermission of one single day, from the autumnal to the vernal equinox, would be a novel anecdote in the page of his biography. To this might be added an explanation of the cause of his sudden descent from a vast altitude in the heavens, which takes place with such amazing rapidity that it creates a noise similar to that of a rushing wind. His mischief and his usefulness to mankind might be narrowly looked into, and placed in so clear a light, that nobody could afterwards have a doubt whether this bird ought to be protected as a friend to a cultivated country, or banished from it as a depredating enemy.

I remember, some fifteen years ago, when I was very anxious to divert a footpath which had become an intolerable nuisance, the farmers in the district said that I should freely have their goodwill to do so, provided I would only destroy a large rookery in a neighbouring wood. On the other hand, the villagers deplored this proposed destruction, as it would deprive them of their annual supply of about two thousand young rooks. Now the gardener abominated them. He called them a devouring set, said that they spoiled all the tops of the trees, and that, for his part, he hoped they would all of them get their necks broken. I myself, for divers reasons, was extremely averse to sign their death-warrant. Were I not fearful of being rebuked by grave and solemn critics, I would here hazard a small quotation:—

> "Mulciber in Trojam, pro Troja stabat Apollo;
> Æqua Venus Teucris, Pallas iniqua fuit."

However, at present, it is not my intention to write the life of the rook, or even to inquire incidentally into its vices or its virtues. I merely take up the pen to-day to show that the nudity on the fore head of the rook, and at the base of both mandibles, cannot be caused by the bird's thrusting its bill into the ground.

Bewick is the only one in Professor Rennie's long and fanciful list of "rudimental naturalists," "literary naturalists," and "philosophic naturalists and original observers," who gives us anything satisfactory concerning this nudity. He, sensible naturalist, cuts the knot through at one stroke, by telling us that it is an "original peculiarity." Montagu says that it is acquired by the bird's "habit of thrusting its bill into the ground after worms and various insects." From the study of Professor Rennie this error is renewed to the public, in the Second Edition of the "Ornithological Dictionary." Let us look into this error.

Every observer of birds must know, that when the young rook leaves its nest for good and all there is no part of its head deficient in feathers. Before winter this young bird loses the feathers on the forehead, under the bill, and at the base of both mandibles. The skin where these feathers grew puts on a white scurfy appearance. Now, if these feathers had been worn down to the stumps by means of the bird thrusting its bill into the ground, these stumps would fall out at the regular moulting time, and new feathers would soon make their appearance. If, again, these feathers have been loosened at their roots by the process of thrusting the bill into the ground (which I consider next to impossible), and in consequence of this have fallen out from their places, new feathers would be observed in a few weeks; for, when once a feather is eradicated, nature instantly sets to work to repair the loss by producing another; nor do we know of any process, that can be applied with success, to counteract this admirable provision of nature. Again, these new feathers being full of blood at the roots, any application tending to grind them down, or to eradicate them, would be so painful to the rook, that it would not be able to thrust its bill deep into the ground.

I request the reader to bear in mind, that these arguments are brought forward only under the accepted supposition of naturalists, that the feathers are removed by the process of the bird thrusting its bill into the ground. But he who examines the subject with attention will at once see that the process itself could not destroy the feathers on the head of the rook; because, if they were destroyed by this process, the carrion crow, the jackdaw, the jay, the magpie, and the starling, would all exhibit a similar nudity on the forehead and at the base of the bill; for they all thrust their bills into the ground proportionably as deep as the rooks do theirs, when in quest of worms and grubs. Moreover, if the feathers are eradicated by the act of thrusting the bill into the ground, they would be succeeded by new ones, during the time in which that act could not be put in execution; for example, during a very dry summer, or during a very hard winter; and at these periods, as no action on the part of the rook would operate to destroy the coming feathers, an evident change would soon be observed about the head of the bird. In 1814, the ground was so very hard frozen, and covered with snow for some months, that the rooks could not by any means have an opportunity of thrusting their bills into it. Still, during this protracted period of frost, I could not see a solitary instance of renewal of the feathers on the forehead, or at the base of the bill, in the many birds which I examined.

I deny that the rook does, in general, thrust his bill deep into the ground. Look at this bird in the pasture, through a good glass (this puts me in mind of the professor's suggestion of a thermometer and a stop-watch), and you will see that he merely pulls up the tuft of grass with the point of his bill. When on arable land, he will be observed to thrust his bill comparatively deeper into the mould, to get at the corn, which having just put up its narrow greenish-white leaf, the searcher is directed by it to the sprouted grain. But he cannot be at this work above a fortnight: the progress of vegetation then interferes to stop the petty plunderer.

The quao of South America, a bird of the order of Pie, has a still greater portion of the forehead bare; and it must have put on this uncouth and naked appearance in early youth, for, on inspecting the head, you will see that feathers had once been there. I could never, by any chance, find this bird in the cultivated parts of the country. It inhabits the thick and gloomy forests, and feeds chiefly upon the fruits and seeds which grow upon the stately trees in those never-ending solitudes. In fine, I consider the accepted notion, that the rook loses the feathers of its forehead and those at the base of each mandible, together with the bristles, by the act of thrusting its bill into the ground, as a pretty little bit of specious theory, fit for the closet; but which, in the field, "shows much amiss."

For my own part, I cannot account for the nudity in question. He who is clever enough to assign the true cause why the feathers and bristles fall off, will, no doubt, be able to tell us why there is a bare warty spot on each leg of the horse; and why some cows have horns and some have none. He will possibly show us how it came to happen that the woman mentioned by Dr. Charles Leigh had horns on her head; which horns she shed, and new ones came in their place. Perhaps he will account for the turkey's putting out a long tuft of hair, amid the surrounding feathers of the breast. Peradventure, he may demonstrate to us why the bird camichi, of Guiana, has a long slender horn on its head, and two spurs in each wing, in lieu of having them on its legs. By the way, who knows but that some scientific closet naturalist may account for these alar spurs of the camichi, through the medium of that very useful and important discovery, the quinary system. Thus, for example's sake, suppose these said spurs were once normal or typical on the legs; but, by some rather obscure process, having become aberrant, they made an approach or passage to the wings; while the bird itself was progressing in the circle or leading round, in order to inosculate with the posteriors of its antecedent. He who clearly comprehends the quinary system will readily understand this.

If I had time just now, I would call in question the propriety of the assertion, that the rook "is furnished with a small pouch at the root of the tongue;" and I would finish by showing the reader that the author of the Second Edition of "Montagu" was dozing when he deprived the rook (Corvus) of the good old sensible epithet frugilegus, and put that of prædatorious in its place.

We read in Rennie's "Montagu's Ornithological Dictionary," that "the rook is furnished with a small pouch at the root of the tongue." If the carrion crow were as useful to man, as the rook is known to be; if the jay and the magpie had less to answer for, on the score of petty plunder; and if the jackdaw did not expose itself to persecution by its prying and suspicious habits, they would all be allowed by man to range at large without molestation; and then the naturalist would have that opportunity of examining their economy, which at present is denied him.

Amongst many peculiarities in these birds, scarcely known or even noticed, he would observe that at a certain time of the year, and only then, they all have, at intervals, an appearance of a pouch under the bill, quite as well defined as that which is seen in the rook. The idea would then occur to him, that ornithologists have either said too much, in stating that the rook is furnished with a small pouch at the root of the tongue; or too little, in not telling us that the carrion crow, the jay, the magpie, and the jackdaw, are supplied with a similar convenience. The real matter of fact is this, that naturalists err when they ascribe a pouch to the rook. Though at times there is an actual appearance of a pouch under the bill of the rook, and also under the bills of the other birds just enumerated, still, upon a close inspection, it will be seen that there is no pouch at all in any of them. The young of all birds, from the size of the thrush to that of the wren, are satisfied with a single worm at one feeding, or with two at the most. Thus, in fields and gardens, we see an old bird catch an insect, and fly away immediately with it to the nest. But food of this scanty measure would not be enough for the larger kind of insectivorous birds. The progeny would undoubtedly require more at each feeding; and, add to this, supposing the bird only carried one insect at each turn, too much time would be lost in passing to and from the nest. To obviate this, as birds of the Pie tribe have no power, in health, to eject food which has descended into the stomach (saving the indigestible remnants of aliment, which are thrown up in the form of pellets), they collect a considerable quantity of insects in their mouth, and they confine them there, without letting them go down the throat. By this process, a rook is enabled to pick up a sufficient supply of food, some miles from the nest; and when its mouth will hold no more insects, the bird takes flight and carries them to its expecting brood. The carrion crow, the jay, the magpie, and the jackdaw do the same thing precisely. Now, the gathered insects, being prevented from descending into the stomach, and at the same time not being able to escape at the bill, must necessarily form a lump under the lower mandible, where the skin, in all birds, is admirably formed for distension. This lump is what has given rise to the notion among naturalists, that the rook is furnished with a pouch at the root of the tongue. If this pouch be allowed in the rook, then it must be admitted that all birds are furnished with a pouch; and it must also be admitted that our tars are furnished with a pouch betwixt the mouth and the ear, because, for convenience sake, they stow away their quid in that quarter.

It may be easily accounted for, why ornithologists make no mention of a pouch under the tongue of the jay, the jackdaw, the magpie, and the carrion crow, while they describe, with such plausibility, a pouch at the root of the tongue of the rook. The reason is this —the rook, in general, is the friend of man, and, in the breeding season, he becomes so tame that he may be approached within a few yards. This gives you a fine opportunity of observing the lump under the bill, when the skin in that part is distended with a supply of food. Indeed, you can observe it at a considerable distance, either while the bird is on the ground, or when it is flying across you, on account of its white appearance, contrasted with the sable plumage. On the other hand, the carrion crow, the magpie, the jay, and even the jackdaw, are all birds of ruined character. Their misfortunes make them shy; and thus you are prevented from having much intercourse with them. The gardener and the henwife can never be brought to look upon them with the least appearance of kind feeling; while the gamekeeper, that *cholera morbus* to the feathered race, foolishly imagines that he proves his attention to his master's interests, by producing a disgusting exhibition of impaled birds on the kennel walls. Nay, show me, if you can, a young squire, idling from college, who does not try to persuade the keeper that it is his bounden duty to exterminate all manner of owls, ravens, carrion crows, hawks, herons, magpies, jays, daws, woodpeckers, ringdoves, and such like vermin, from his father's estate. With this destroying force to contend with, in the shape of keeper, squire, and henwife, it is not to be wondered at that naturalists have so few opportunities of watching individuals of the Pie tribe through the entire course of their incubation; which individuals, if persecution did not exist, would be seen in the breeding season, perpetually passing to and fro, with their mouths full of food for their young.

In my little peaceful valley, where the report of the keeper's gun is never heard, and where the birds are safe from the depredations of man, the ornithologist has free access to pursue his favourite study. Towards the middle of May, he can see here the carrion crow, the jay, the magpie, and the jackdaw, filling their mouths with grubs and worms, the weight of which forces the pliant skin under the bill into the shape of a little round ball, just of the same appearance as that which is observed in the rook, with this trifling difference, that the lump is feathered in the first, and bare of feathers in the last.

While I am writing this, there may be seen here a wild duck hatching her eggs in a nest upon a sloping wooded bank; while a carrion crow is hatching hers in a fir tree ten yards from the spot, and a windhover hawk is performing the same function in a fir tree about six yards on the other side of the duck. Forty yards from where the carrion crow is hatching, may be seen a barn owl sitting on her eggs in the hollow of an oak tree; and, at twenty yards' distance from the windhover, another white or barn owl has formed her nest in the decayed recesses of a tremendous oak. Though all these families keep the peace, I do not wish it to be understood that they are upon visiting terms. In another part, a long-eared owl is rearing her young in the last year's nest of a carrion crow. When the parent bird is asleep, you can see very distinctly the erect feathers on the head; but the moment she gets a sight of you, down go the erect feathers, and lie close to the head; so that an inexperienced observer might take the bird to be a tawny owl. This year, a wild duck has chosen her place of incubation twelve feet from the ground, in an oak tree near the water; while, in the immediate vicinity, several magpies are hatching in undisturbed repose.

I am sometimes questioned by country gentlemen (who have a keen eye for jugged hare and roasted partridges) on the propriety of befriending, what they consider, feathered vermin. I tell them that Professor Rennie has remarked in the *Magazine of Natural History*, vol. v., p. 102, "that I have hitherto published nothing respecting the economy or faculties of animals, of the least use to natural history." This being the case, I am trying to make up my deficiency in pen and ink, by establishing a sylvan enclosure, which any ornithologist is allowed to enter; and where he will have an opportunity of correcting, by actual observation, some of those errors which appear in the Second Edition of "Montague," by James Rennie, A.M.A.L.S. Moreover, sometimes, in a jocose kind of a way, I tell them I like to have all kinds of birds around me; and that I cannot find in my heart to kill a poor jay for sucking an egg, when I know—

> "That I myself, carnivorous sinner,
> Had pullets yesterday for dinner."

THE ROOK.

Last year, I partly promised that, on some dismal winter's evening, I would sit me down and write the history of the rook. The period has now arrived. Nothing can be more gloomy and tempestuous than the present aspect of the heavens. The wind is roaring through the naked branches of the sycamores, the rain beats fiercely on the eastern windows, and the dashing of the waves against the walls of the island, warns us that one of November's dark and stormy nights is close at hand; such a night, probably, as that in which Tam O'Shanter unfortunately peeped into Kirk Alloway. Foreigners tell us that on these nights Englishmen are prone to use the knife, or a piece of twisted hemp, to calm their agitated spirits. For my own part, I must say that I have an insuperable repugnance to such anodynes; and were a host of blue devils conjured up by November's fogs just now to assail me, I would prefer combating the phantoms with the weapons of ornithology, rather than run any risk of disturbing the economy of my jugular vein, by a process productive of very unpleasant sensations, before it lulls one to rest.

According to my promise, I will now pen down a few remarks on the habits of the rook, which bird, in good old sensible times, was styled *frugilegus*. It is now pronounced to be *prædatorius*. Who knows but that our great ones in ornithology may ultimately determine to call it up to the house of hawks?

If this useful bird were not so closely allied to the carrion crow in colour and in shape, we should see it sent up to the tables of the rich as often as we see the pigeon. But prejudice forbids the appearance of broiled rook in the lordly mansion. If we wish to partake of it, we must repair to the cottage of the lowly swain, or, here and there, to the hall of the homely country squire, whose kitchen has never been blessed by the presence of a first-rate cook, and whose yearnings for a good and wholesome dish are not stifled by the fear of what a too highly polished world will say.

There is no wild bird in England so completely gregarious as the rook, or so regular in its daily movements. The ringdoves will assemble in countless multitudes, the finches will unite in vast assemblies, and waterfowl will flock in thousands to the protected lake during the dreary months of winter; but when the returning sun spreads joy and consolation over the face of nature, their congregated numbers are dissolved, and the individuals retire in pairs to propagate their respective species. The rook, however, remains in society the year throughout. In flocks it builds its nest, in flocks it seeks for food, and in flocks it retires to roost.

About two miles to the eastward of this place are the woods of Nostell Priory, where, from time immemorial, the rooks have retired to pass the night. I suspect, by the observations which I have been able to make on the morning and evening transit of these birds, that there is not another roosting-place for, at least, thirty miles to the westward of Nostell Priory. Every morning, from within a few days of the autumnal to about a week before the vernal equinox, the rooks, in congregated thousands upon thousands, fly over this valley in a westerly direction, and return in undiminished numbers to the east, an hour or so before the night sets in. In their morning passage, some stop here; others, in other favourite places, farther and farther on—now repairing to the trees for pastime, now resorting to the fields for food, till the declining sun warns those which have gone farthest to the westward, that it is time they should return. They rise in a mass, receiving additions to their numbers from every intervening place, till they reach this neighbourhood in an amazing flock. Sometimes they pass on without stopping, and are joined by those which have spent the day here. At other times they make my park their place of rendezvous, and cover the ground in vast profusion, or perch upon the surrounding trees. After tarrying here for a certain time, every rook takes wing. They linger in the air for a while, in slow revolving circles, and then they all proceed to Nostell Priory, which is their last resting-place for the night. In their morning and evening passage, the loftiness or lowliness of their flight seems to be regulated by the state of the weather. When it blows a hard gale of wind, they descend the valley with astonishing rapidity, and just skim over the tops of the intervening hills, a few feet above the trees; but, when the sky is calm and clear, they pass through the heavens at a great height, in regular and easy flight.

Sometimes these birds perform an evolution, which is, in this part of the country, usually called the shooting of the rooks. Farmers tell you that this shooting portends a coming wind. He who pays attention to the flight of birds has, no doubt, observed this downward movement. When rooks have risen to an immense height in the air, so that, in appearance, they are scarcely larger than the lark, they suddenly descend to the ground or to the tops of trees exactly under them. To effect this, they come headlong down on pinion a little raised, but not expanded in a zig-zag direction (presenting alternately their back and breast to you), through the resisting air, which causes a noise similar to that of a rushing wind. This is a magnificent and beautiful sight to the eye of an ornithologist. It is idle to suppose for a moment that it portends wind. It is merely the ordinary descent of the birds to an inviting spot beneath them, where, in general, some of their associates are already assembled, or where there is food to be procured. When we consider the prodigious height of the rooks at the time they begin to descend, we conclude that they cannot effect their arrival at a spot perpendicular under them by any other process so short and rapid.

Rooks remain with us the year throughout. If there were a deficiency of food, this would not be the case; for when birds can no longer support themselves in the place which they have chosen for their residence, they leave it, and go in quest of nutriment elsewhere. Thus, for want of food, myriads of wild fowl leave the frozen north and repair to milder climates; and in this immediate district, when there is but a scanty sprinkling of seeds on the whitethorn bush, our flocks of fieldfares and of redwings bear no proportion to those in times of a plentiful supply of their favourite food. But the number of rooks never visibly diminishes; and, on this account, we may safely conclude that, one way or other, they always find a sufficiency of food. Now, if we bring as a charge against them, their feeding upon the industry of man, as, for example, during the time of a hard frost, or at seedtime, or at harvest, at which periods they will commit depredations, if not narrowly watched, we ought in justice to put down in their favour the rest of the year, when they feed entirely upon insects. Should we wish to know the amount of noxious insects destroyed by rooks, we have only to refer to a most valuable and interesting paper on the services of the rook, signed T. G. Clitheroe, Lancashire, which is given in the *Magazine of Natural History*, vol. vi., p. 142. I wish every farmer in England would read it, they would then be convinced how much the rook befriends them.

Some author (I think Goldsmith) informs us, that the North American colonists got the notion into their heads that the purple grakle was a great consumer of their maize; and these wise men of the west actually offered a reward of threepence for the killed dozen of the plunderers. This tempting boon soon caused the country to be thinned of grakles, and then myriads of insects appeared, to put the good people in mind of the former plagues of Egypt. They damaged the grass to such a fearful extent that, in 1749, the rash colonists were obliged to procure hay from Pennsylvania, and even from England. Buffon mentions, that grakles were brought from India to Bourbon, in order to exterminate the grasshoppers. The colonists, seeing these birds busy in the new-sown fields, fancied that they were searching for grain, and instantly gave the alarm. The poor grakles were proscribed by Government, and in two hours after the sentence was passed, not a grakle remained in the island The grasshoppers again got the ascendancy, and then the deluded islanders began to mourn for the loss of their grakles. The governor procured four of these birds from India, about eight years after their proscription, and the State took charge of their preservation. Laws were immediately framed for their protection, and lest the people should have a hankering for grakle pie, the physicians were instructed to proclaim the flesh of the grakle very unwholesome food. Whenever I see a flock of rooks at work in a turnip-field, which, in dry weather, is often the case, I know that they have not assembled there to eat either the turnips or the tops, but that they are employed in picking out a grub which has already made a lodgment in the turnip.

Last spring I paid a visit, once a day, to a carrion crow's nest on the top of a fir tree. In the course of the morning in which she had laid her fifth egg, I took all the eggs out of the nest, and in their place I put two rooks' eggs, which were within six days of being hatched. The carrion crow attended on the stranger eggs, just as though they had been her own, and she raised the young of them with parental care. When they had become sufficiently large I took them out of the nest, and carried them home. One of them was sent up to the gamekeeper's house, with proper instructions; the other remained with me. Just at this time, an old woman had made me a present of a barn-door hen. "Take it, sir," said she, "and welcome; for if it stays here any longer, we shall be obliged to kill it. When we get up to wash in the morning, it crows like a cock. All its feathers are getting like those of a cock; it is high time that it was put out of the way, for when hens turn cocks people say that they are known to be very unlucky; and if this thing is allowed to live, we don't know what may happen. It has great spurs on its legs, and last summer it laid four eggs. If I had had my own way, it would have been killed when it first began to crow." I received the hen with abundant thanks; and, in return, I sent the old woman a full-bred Malay fowl. On examining the hen, I found her comb very large; the feathers on the neck and rump much elongated; the spurs curved, and about an inch and a quarter long; the two largest feathers in her tail arched, and four or five smaller arched ones, of a beautiful and glossy colour, hanging down on each side of the tail. In a word, this hen had so masculine an appearance, that, when strangers looked at her, they all took her to be a cock, and it was with difficulty I persuaded them that she was a hen. We allowed her the range of a sheltered grass-plot, flanked on one side by holly trees, and open to the lake on the other. Here, also, was placed, in a cage, the young rook which I had taken from the nest of the carrion crow. The hen showed such an antipathy to it, that, whenever I held it to her, she would immediately fly at it. When visitors came to inspect her, I had only to take the rook out of the cage, and pit it against her, when she would stand upright, raise the long feathers on her neck, and begin to cackle, cluck, and crow. One morning the rook had managed to push aside a bar in front of its cage. A servant, in passing by, looked into it, and missed the bird. The hen had also disappeared. On search being made, they were both found floating side by side, dead, in the lake below. We conjectured that the hen had pursued the rook after its escape from the cage, and that the wind, which blew very strong that morning, had forced them both into a watery grave. I had still one rook left at the gamekeeper's. It was kept in a cage, which was placed on a little stand in his garden; and I had given orders that upon no account was it to be allowed to go at large. The feathers remained firm at the base of the bill till the 15th of August, on which day the keeper perceived that a few feathers had dropped from the lower mandible, and were lying at the bottom of the cage. In a couple of weeks more, the lower mandible had begun to put on a white scurvy appearance, while here and there a few feathers had fallen from the upper one. This is the purport of the keeper's information to me, on my return home from Bavaria. On the 31st of the same month, a terrible storm set in. By what the keeper told me, the night must have been as dark and dismal as that in which poor King Lear stood in lamentation, and exposed his hoary locks to the four rude winds of heaven. A standard white-hart cherry tree, perhaps the finest in Yorkshire, and which, for many generations, had been the pride and ornament of this place, lost two large branches during the gale; and in the morning, when the keeper rose, he found the cage shattered and upset, and driven to the farthest corner of his garden. The rook was quite dead. It had lost its life, either through the inclemency of that stormy night, or through bruises received in the fall of the cage. Thus both the rooks were unlucky. The old woman, no doubt, could clearly trace their misfortunes to her crowing hen. However, the experiment with the two young rooks, though not perfect, has nevertheless been of some use. It has shown us that the carrion crow makes no distinction betwixt its own eggs and those of the rook; that it can know nothing of the actual time required to sit upon eggs in order to produce the young; that the young of the rook will thrive under the care of the carrion crow, just as well as under that of its own parents; and, finally, that the feathers fall off from the root of the rook's bill by the order of nature, as was surmised by the intelligent Bewick, and not by the process of the bird's thrusting its bill into the earth, in search of food, as is the opinion of some naturalists.

The rook advances through the heavens with a very regular and a somewhat tardy beat of wing! but it is capable of proceeding with great velocity when it chooses; witness its pursuit and attack on the sparrowhawk and kestrel. It is apt to injure, in the course of time, the elm trees on which it builds its nest, by nipping off the uppermost twigs. But this, after all, is mere conjecture. The damage may be caused by an accumulation of nests, or by the constant resort of such a number of birds to one tree. Certain, however, it is, that when rooks have taken possession of an elm tree for the purpose of incubation, the uppermost branches of that tree are often subject to premature decay.

Though the flocks of rooks appear to have no objection to keep company, from time to time, with the carrion crows, in a winter's evening, before they retire to roost, still I can never see a carrion crow build its nest in a rookery. There was always a carrion crow's nest here, in a clump of high Scotch pines, near the stables, till the rooks got possession of the trees; the carrion couple then forsook the place; the rooks were dislodged from this clump of trees, and then a pair of carrion crows (the same, for aught I know to the contrary) came and built their nest in it.

The rook lays from three to five eggs, varying much, like those of the carrion crow, in colour, shape, and size. After the rooks have built and even lined their nests, they leave them, on the approach of night, to repair to the general rendezvous at Nostell Priory; but as soon as they begin to lay, they then no longer quit the trees at night, until they have reared their young, When this has been effected, we see large flocks of them resorting to the different woods of the neighbourhood to pass the night, This they continue to do till a few days before the autumnal equinox, when, for reasons which baffle all conjecture, they begin to pass over this valley every morning in a westerly direction, and return in the evening to their eastern roosting-place in the woods of Nostell Priory.

Rooks are observed to keep up a very close and friendly intercourse with starlings and jackdaws; but on looking at them in the fields, the observer will perceive that, while the jackdaws mix promiscuously with the rooks, both in their flight and in searching for food, the starlings always keep in their own flock. This circumstance has long engaged my attention, but I am no further advanced in the investigation than I was on the first day on which I set out. It is one of the many secrets in the habits of birds, which will, perhaps, be for ever concealed from our view.

THE JACKDAW.

This lively bird is the constant friend and companion of the rook, in our part of Yorkshire, for nine months out of twelve; and I think there is no doubt but that it would remain with the rook for the other three, if it only had that particular kind of convenience for incubation which its nature, for reasons totally unknown to us, seems to require. Though the jackdaw makes use of the same kind of materials for building as those which are found in the nest of the rook; though it is, to all appearance, quite as hardy a bird; and though it passes the night, exposed to the chilling cold and rains of winter, on the leafless branches of the lofty elm; still, when the period for incubation arrives, it bids farewell to those exposed heights where the rook remains to hatch its young, and betakes itself to the shelter which is afforded in the holes of steeples, towers, and trees. Perhaps there is no instance in the annals of ornithology which tells of the jackdaw ever building its nest in the open air. Wishing to try whether these two congeners could not be induced to continue the year throughout in that bond of society which, I had observed, was only broken during incubation, I made a commodious cavity in an aged elm, just at the place where it had lost a mighty limb, some forty years ago, in a tremendous gale of wind which laid prostrate some of the finest trees in this part of Yorkshire. At the approach of breeding-time, a pair of jackdaws took possession of it, and reared their young in shelter; while the rooks performed a similar duty on the top of the same tree, exposed to all the rigours of an English spring. This success induced me to appropriate other conveniences for the incubation of the jackdaw; and I have now the satisfaction to see an uninterrupted fellowship exist, the year throughout, between the jackdaw and the rook.

Those who are of opinion that birds are gifted with a certain portion of reasoning, superior to that which is usually denominated instinct, will have cause for reflection, should they ever examine the materials of a jackdaw's nest, or pay any attention to the mode by which the bird tries to introduce those materials into the hole. The jackdaw invariably carries into it a certain quantity of sticks, fully as thick as those which are made use of by the rook. Now, it always occurs to us that the rook conveys sticks up to the branches of a tree in order to make a kind of frame which may support the inner parts of the nest. But why should the jackdaw deposit a large heap of strong sticks in the hole which is already calculated to support every kind of material proper for a nest? Then, again: how the act itself of introducing those apparently useless sticks causes us to suspend our judgment, before we finally conclude that the bird is endowed with any sort of reasoning superior to what is commonly denominated the instinct of brutes! You may see the jackdaw trying, for a quarter of an hour, to get a stick into the hole; while every attempt will be futile, because, the bird having laid hold of it by the middle, it is necessarily thrown at right angles with the body, and the daw cannot possibly perceive that the stick ought to be nearly parallel with its body, before it can be conveyed into the hole. Fatigued at length with repeated efforts, and completely foiled in its numberless attempts to introduce the stick, it lets it fall to the ground; and immediately goes in quest of another, probably to experience another disappointment on its return. When time and chance have enabled it to place a quantity of sticks at the bottom of the hole, it then goes to seek for materials of a more pliant and a softer nature.

The shrill and quickly repeated notes of the jackdaw, especially during incubation, are far from being unpleasant to the ear which is accustomed to rural sounds: but very few people have an opportunity of paying attention to them, as this bird is by no means a general favourite with man. It is commonly accused of sucking eggs; but eggs form no part of its diet, otherwise it would be a bad neighbour here! and ringdoves, house-doves, wagtails, fowls, and ducks would wish it far away. It is vastly fond of peas and cherries. When these are done, the jackdaw repairs to the pastures, where it devours an incredible numbers of insects.

After the young have left the nest, they join the rooks, and roost with them in the surrounding woods till near the autumnal equinox; when both rooks and jackdaws regularly retire at nightfall to the eastward of this place, in immense flocks, and return to the westward every morning for the ensuing half-year. The jackdaw lays from four to six eggs, varying very much in colour, and often in size and shape. When protected, it will build its nest in holes not above six feet from the ground, where people are passing and repassing every hour of the day. If you take away the eggs, and substitute those of magpies, the bird will hatch them, and rear the young ones with great care and affection.

The plumage of the jackdaw is black, with shining silvery gray behind the head, changing when exposed to the different rays of light. A jackdaw once appeared here with a remarkable portion of white in one of the wings; it tarried with us for two years, and then disappeared for ever. Probably the singularity of its wing had attracted the fatal notice of some experienced gunner, in its peregrinations beyond this vale of safety.

The jackdaw, like the rook, collects insects in its mouth, to feed its young; and this gives it the appearance of a pouch under the lower mandible.

I know not how far naturalists will agree with me in the speculation that these birds remain in pairs the year throughout. When November's winds have stripped the sycamore of its every leaf, I see the daws sitting in pairs, side by side, upon the naked branches. They seem fond of preening each other's heads; and, as they mostly leave the trees in pairs, and in pairs return, I am led to conjecture that their union is not dissolved at the period when the young no longer need parental aid.

He who is fond of rural scenes, and loves to rove—

> "On a mountain's lonely van,
> Beyond the noise of busy man,
> Painting fair the form of things,
> While the yellow linnet sings,
> Or the tuneful nightingale
> Charms the forest with her tale"—

will never bring his mind to drive away this playful merry bird, or allow his gardener to take its life, for the value of a handful of cherries.

THE JAY.

Our peas and ripe cherries have attractions which this well-known bird cannot resist. To these it unfortunately resorts, and loses its life by the gun of the watchful gardener, who never fails to magnify a petty act of plunder into a downright commission of felony. Forgetful of the caution which is its peculiar characteristic at other seasons of the year, the jay becomes remarkably daring and adventurous in pea and cherry time. To this unlucky yearning for the good things of the garden, I attribute the general scarcity of this truly British bird. Even here the jay is never abundant, though a safe retreat is always open to it; so that, whilst the magpie is very numerous, it is comparatively a scarce bird. Two or three nests, at most, are all I can annually produce. These, by the way, I find are much more compact, and better put together, than those which naturalists have hitherto described.

The nest of the jay is never seen near the tops of trees, like those of the magpie and the crow. He who feels inclined to study the nidification of this bird must search the lower branches of the oak, or inspect the woodbine mantling round the hazel. In such situations he will find the nest, which mostly contains six eggs; and if he advances with "cautious step and slow," he may approach within a yard of it before the sitting bird will take its flight. There seems to be an erroneous opinion current concerning some birds, which are supposed to forsake their eggs if they are handled, be it ever in so slight a manner. This requires some explanation. If you rush up abruptly to a nest, so as to terrify the old bird, you will find, with very few exceptions, that it will forsake the place. If, on the contrary, you approach the nest of any bird in gentleness and silence, and allow the owner to slip off without being fluttered, you may take the eggs out of the nest, and blow upon them, and put them in your mouth if you choose, or change their original position when you replace them in the nest, notwithstanding which the bird will come back to them (even though it be a ringdove), and continue to sit on them as attentively as before.

The jay being one of those birds which have their brilliant colours prior to their first moulting, you will find the male and female so much alike, that it will be no easy matter to distinguish the one from the other.

The young of this bird are born blind: of course the parent bird never covers the eggs with any part of the materials which form the nest, when she has occasion to be absent. Here let me remark the immense difference that exists betwixt a newly-hatched bird with its eyes open, and one newly hatched with its eyes closed. The first can walk and find its food in a very short time; the second is helpless in the extreme for many days, and cannot support its own weight. A scientific friend in the United States of North America has asked my opinion of our English account concerning a young cuckoo, which, on the very day that it was hatched, was actually seen retrograding up the side of a hedge sparrow's nest with a young hedge sparrow on its back. After reaching the top, it rested for a moment, and then, with a jerk, threw off its load quite clear of the nest. No bird in the creation could perform such an astounding feat under such embarrassing circumstances. The young cuckoo cannot, by any means, support its own weight during the first day of its existence. Of course, then, it is utterly incapable of clambering rump foremost, up the steep side of a hedge sparrow's nest with the additional weight of a young hedge sparrow on its back. Add to this, that an old bird, the young of which are born blind, always remains on the nest during the whole of the day on which the chick is excluded from the shell, in order to protect it. Now, the old hedge sparrow, in the case just mentioned, must have been forced from her nest by the accidental presence of an intruder. Her absence, then, at this important crisis, was quite contrary to her usual economy, for she ought to have been upon the nest. It follows, then, that instinct could not have directed the newly-hatched and blind cuckoo to oust the hedge sparrow, even though it had strength to do so, because the old bird would have been sitting close on the nest, but for the circumstance which forced her from it, namely, the accidental presence of an intruder. The account carries its own condemnation, no matter by whom related or by whom received. I had much rather believe the story of baby Hercules throttling two snakes in his cradle.

> "Parvus erat, manibusque suis Tirynthius angues
> Pressit, et in cunis jam Jove dignus erat."

When naturalists affixed the epithet glandarius to the name of the jay, they ought also to have accorded it to the jackdaw, the rook, the carrion crow, and the magpie, not forgetting the pheasant and the ringdove. All these birds feed voraciously on the acorn; and, with the exception of the two last mentioned, they bury it in the ground, not in hoarded heaps, but separately, here and there, as fancy may direct them. When the snows of winter have fairly set in, and thus prevented the jay from finding a supply of acorns amongst the fallen leaves in the woods, it is then seen flitting from hedge to hedge in the vicinity of pea and bean stacks, where it may be observed clinging to the sides of these in quest of uncovered pods; and thus it acquires part of its scanty provender, "till the vernal suns and showers" have dissolved the accumulated snow, and cleared its former haunts. To these it returns once more, and consumes myriads of insects in comparative safety. But when the fatal season of peas and ripe cherries arrives, scarcely anything short of death can deter this unfortunate bird from participating in the proffered feast. The gardener, in discharging his gun at it, is sure to make bad worse by his officious interference; for in his eagerness to kill the poor bird, he never once reflects that the contents of his piece do ten times more harm to the fruit and to the tender shoots of the cherry tree, than the dreaded presence of half a dozen jays, all with empty stomachs. Towards the end of April, when nature smiles around, and the woods begin to expand their opening bloom, he who loves to wander through them, in quest of ornithological adventures, will sometimes hear a profusion of imitative tones not far from the place where he is straying, now hoarse and sonorous, now lowered and subdued, and composed of modulations almost approaching to those of song: they are produced by ten or a dozen sprightly jays, assembled in merry mimicry and glee, ere they depart in pairs to select a place for approaching incubation. This is the only period of the year in which the jay shows a disposition to be social; for, at other times, it is a wandering solitary bird, and does not allow its young to associate with it, after they have arrived at a state to be able to provide for themselves. Here, where the jay is encouraged and protected, this part of its economy may be easily verified.

This bird would probably not be noticed as having anything remarkable either in shape or plumage, were it not for the loveliness of its bastard wing and greater covert feathers. The blue, the black, and the white in them are so exquisitely blended, that the eye is never tired with gazing on the colours. Nothing can possibly be conceived more charming. No other known bird in the creation possesses such a rich exhibition of colouring in the bastard wing and greater coverts. It belongs exclusively to this one species of bird: it is the indubitable and never-failing mark of the jay of Europe—a bird which will ever have a friend in me, notwithstanding its acknowledged depredations in gardens and in orchards. Its pilferings are of short duration: they are too trivial to cause uneasiness, and of far too light a nature to demand the forfeiture of life.

THE MAGPIE.

THIS beautiful frequenter of our woods and plains was notorious, two thousand years ago, for pertness of character and volubility of tongue. Ovid, who knew more of birds than any man of his time, gives us an account of a family of young ladies in Macedonia, who were all changed into magpies; and he expressly tells us, that they retained their inordinate fondness for gabble long after they had lost the lovely form of woman.

> "Nunc quoque in alitibus, facundia prisca remansit,
> Rauca garrulitas, studiumque immane loquendi."
>
> "And still their tongues went on, though changed to birds,
> In endless clack, and vast desire of words."

If similar transformations were to take place now-a-days, I suspect that many a father here in England would have to look for his lost daughter, chattering amongst the lofty branches of the trees in his park.

I protect the magpie with greater care than, perhaps, any other bird, on account of its having nobody to stand up for it. Both rich and poor seem to entertain so great an antipathy to this gay and lively bird in its wild state, that I often wonder how the breed has managed to escape utter extirpation in this populous district. The country gentlemen all agree in signing the death-warrant of this friendless bird, because it is known to suck eggs, and to strangle young game; whilst, in general, the lower orders have an insurmountable prejudice against it, on the score of its supposed knowledge of their future destiny. They tell you that, when four of these ominous birds are seen together, it is a sure sign that, ere long, there will be a funeral in the village; and that nine are quite a horrible sight. I have often heard countrymen say that they had rather see any bird than a magpie; but, upon my asking them the cause of their antipathy to the bird, all the answer I could get was, that they knew it to be unlucky, and that it always contrived to know what was going to take place. My keeper both hates and fears a magpie; but self-interest forces upon the fellow the unpleasant task of encouraging the breed, in order to keep well with me. He was once in conversation with the keeper of a neighbouring gentleman, at the door of a little alehouse in the village of Heath, when a magpie flew into a tree hard by. "I must have thee killed," said the gentleman's keeper, "otherwise there will be a blow up betwixt me and my master."—"Ah!" rejoined my keeper, "were I to kill a magpie, my master would soon blow me out of his service." The keeper thought this too good to be lost, and I had it from his own mouth.

I love in my heart to see a magpie, for it always puts me in mind of the tropics. There is such a rich glow of colour, and such a metallic splendour of plumage in this bird, that one would almost be apt to imagine it must have found its way here from the blazing latitudes of the south.

I am fully aware that it has propensities of a sufficiently predatory nature to bring it into general disrepute with civilised man; but let us remember that, like the carrion crow, it only exercises them to any serious extent for about two months in the spring of the year. At that season, it certainly commences operations with surprising assiduity. Cacus himself, that ancient thief, when he was about to steal the cows of Hercules, never exhibited greater cunning than that which this bird puts in practice after it has discovered a hen's nest in the yard, or a place of sitting game in the field. Both the magpie and the carrion crow transfix the eggs with their beaks, and then convey them through the air.

After the season of incubation is over, the magpie becomes a harmless bird (unless the pilfering of a little unprotected fruit be considered a crime), and spends the remainder of the year in works of great utility to man, by destroying millions of insects, and by preventing the air from being infected with the noxious effluvium arising from the scourings of slaughter-houses. The cattle, too, are in some degree benefited by the prying researches of this sprightly bird. At a certain time of the year, it is often seen on the backs of sheep and oxen, freeing them from vermin which must be exceedingly troublesome to them. In Demerara, where the magpie does not exist, this friendly office is performed by a hawk. Widely different is the object of the jackdaw's visit to the backs of sheep and oxen: it goes there for fleece—the magpie for filth.

I cannot suppose, with some naturalists, that the dome of the magpie's nest is intended for a defence, because the hole at which the bird enters is always open to an enemy, while the contents of the nest are quite visible through the dome itself. The young of the magpie being hatched blind, the eggs are never covered when the parent bird leaves the nest. I am satisfied in my own mind, that neither the magpie, nor any other bird, can have the least idea that their nests will be robbed, up to the very moment when their eggs, or their young, are taken away. Did they apprehend such a disaster, we may be assured that their first object would be to build their nests in a place out of harm's way. Now, the magpie generally chooses the site for its intended incubation in a spot the most exposed that can possibly be imagined. It will continue to work at the structure of its nest, although we visit the nest two or three times a day; and it will return to the nest, and sit upon its eggs, after those eggs have been handled times out of number. Nay, more; you may take away its own eggs, and substitute those of some other bird, and it will hatch them and rear the produce. The magpie (and we may include all other birds) shows not that intensity of feeling for its eggs which it is known to have for its young. Thus, if you take the eggs from the nest and place them on the ground, the magpie will abandon them for ever; but if you remove the young to a place to which the parent bird can have access, she will regularly bring them a supply of food. When there is an addle egg, it is allowed to remain in the nest during the entire process of rearing the young. Birds which make their nests in walls or in the holes of trees (the starling, to wit), bring out the addle egg, which has remained from the last year's incubation, and drop it on the ground, when they begin to renew the nest. The magpie builds its nest in any tree, no matter of what kind; and it is very partial even to the lowly thorn bush in the hedgerow. The apple tree in the garden, the lonely ash in the meadow, the alder in the swamp, and the oak in the heart of the forest, far from the abode of man—all have their attractions for the magpie; and in these it will form its nest, which is invariably composed of sticks, and clay or earth, and lined with fibrous roots. When I am informed that magpies line their nest with wool, I suspect that there is either an error in the statement, or that the modern magpie has conformed to the times, and has brought to her nest a kind of furniture wholly unknown to her ancestors. The magpie lays from three to nine eggs; but seven seems to be the average number, varying in size and shape and colour, as much as those of the carrion crow.

The female magpie has so near a resemblance to the male, that you can scarcely distinguish the one from the other. This is the case with all birds, where the brilliant plumage obtains before the first moulting.

The sight of a magpie always gives me pleasure—its long tail, and its distinct markings of white and black, having a beautiful effect as it darts through the air. You may know this bird at a very great distance, either on the ground or in a tree, by the frequent and brisk movement of its tail—always up and down, never sideways. The magpie seems to have found out that it has at least one friend left in our part of the country. Last year I had thirty-four nests, all of which ushered their young into the world at large, making on an average of five to the nest, including the parent birds, 238 individuals; an increase quite sufficient, one would think, to supply all the wise men of the county with any quantity of omens. The name of wise-man, in Yorkshire, is always given to one who professes to deal in the black art. Even well-educated people of the nineteenth century go to him in order to recover things lost, or to be put on the right scent, if a cow, or horse, or pig, or relative, be missing.

Magpies are social, though not gregarious in the strictest sense of the word. In places where they are beyond the reach of molestation, you may see them in little parties of fifteen or twenty together, flitting from tree to tree in noisy conversation. Sometimes they will rise to a great height in the air, passing through it with a velocity which seems hitherto to have escaped the notice of naturalists.

Like all other birds in a wild state, magpies become vociferous at the approach of night; and he who loves to watch the movements of animated nature, may observe them, in small detached companies, proceeding to their wonted roosting-places, in some wood of spruce, pine, or larch, which they seem to prefer to any other. There they become valuable watchmen for the night. Whoever enters the grove is sure to attract their special notice; and then their chattering is incessant. Whenever I here it during the night, or even during the day (except towards nightfall), I know that there is mischief on the stir. Three years ago, at eleven o'clock in broad day, I was at the capture of one of the most expert and desperate marauders that ever scourged this part of the country. He had annoyed me for a length of time; and was so exceedingly cunning, that, when we went in pursuit of him, he always contrived to escape, either by squatting down in the thick cover of the woods, or by taking himself off in time when he saw us approach. At last, he owed his capture to the magpies. We were directed to the place of his depredations by the incessant chatterings of these birds in the tops of the trees, just over the spot where he was working in his vocation. He had hanged fourteen hares; and the ground was so covered with brambles and brushwood, that, when we surprised him, he told us that we never should have found him, had it not been for the cursed magpies. His name was Kirk. In the course of the following summer, he set out on his travels towards New South Wales, at the king's expense, having been convicted, at the York assizes, of an overweening inclination for his neighbour's mutton, to which he had helped himself most abundantly.

"On the 6th of May 1837, I found a magpie's nest on a Scotch fir in the same wood where the herons breed. I mounted the tree, and saw that there were five magpie eggs in the nest. I took one of these eggs away with me. On the 16th of the same month, in passing under this tree, I observed a heron's eggshell on the ground. It had evidently been sucked. I then got up to the nest, and I found that the magpie's eggs were all gone; but there was an empty shell of a heron's egg in the nest. It, too, had been sucked, and I brought it away with me. The most curious part yet remains to be told. A heron had built a very large nest, on the top of the magpie's nest; and the top of the magpie's nest served as a base for the heron's nest. On the 24th of the same month, I again ascended the tree, and found no eggs nor eggshells in the magpie's nest, but there were four heron's eggs in the heron's nest on the top of the magpie's nest; and I took one of these eggs, which I have since given to Mr. Stansfield." *From one of Waterton's note-books.*—[Ed.]

THE ROLLER.

> "I love to see the little goldfinch pluck
> The groundsel's feather'd seed, and twit and twit;
> And then, in bower of apple blossoms perch'd,
> Trim his gay suit, and pay us with a song.
> I would not hold him prisoner for the world."—Hurdis.

I know nothing in the environs of Rome half so grand and charming as the ornamented grounds of the beautiful villa Pamphili Doria, the gates of which are always open to the public. A blessing be upon the head of its princely owner, for this prized permission to the world at large! May his liberality never suffer by the hand of wanton mischief, nor ever be checked by the presence of a rude intruder! Many a time, when fairly tired with the never-ending scenes of painting and of sculpture within the walls of the Eternal City, have I resorted to this enchanting spot, here to enjoy an hour or two of rural quiet, and of purer air: and could I have had a few British gardeners by my side, the enjoyment would have been more complete; for gardeners in general are choice observers; to them

> ——"Not a tree,
> A plant, a leaf, a blossom, but contains
> A folio volume."

The marble fountains of Pamphili Doria, its lofty trees, its water-falls, its terraces, its shrubs and flowers and wooded winding paths, delight the soul of man, and clearly prove what magic scenes can be produced, when studied art goes hand in hand with nature. The walk, canopied by evergreens of ancient growth, and at the end of which a distant view of St. Peter's colossal temple bursts upon the sight, has so much truth and judgment in its plan, that I question whether its parallel can be found in the annals of horticultural design. When St. Peter's dome is illuminated, whilst standing under the wooded archway of this walk, you may fancy yourself on the confines of Elysium.

As an additional charm to the beauties of Pamphili Doria, the birds are here protected, so that not one of them which comes within its precincts is ever transported to the bird market at the Pantheon in Rome, where individuals of every species known in Italy, from the wren to the raven, may be had, ready trussed for the spit. I myself, in the course of the season, have seen and examined the following list of good things on the stalls, to regale natives and foreigners in Rome.* Towards the close of April, the walks of Pamphili Doria resound with the sweet notes of the nightingale both day and night; and, from February to mid-July, the thrush and blackbird pour forth incessant strains of melody.[1]

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* Wild boars, roebucks, red deer, hares, rabbits, pheasants, frogs, common partridges and two other species, quails, water-rails, godwits, snipes, woodcocks, dabchicks, coots, wild ducks, wild geese, golden plovers, green plovers, sandpipers, wigeons, teal, gargany, brown-headed ducks, sheldrakes, tufted Grecian ducks, green linnets, goldfinches, brown linnets, grosbeaks, land tortoises, ring-doves, rock pigeons, fancy pigeons, wagtails, robin redbreasts, common buntings, gray buntings, cirl buntings, bluecap titmouse, oxeye titmouse, long-tailed titmouse, blackcap titmouse, cole titmouse, blackcap sylvia, song thrush, blackbird, blue thrush, jays, magpies, rooks, hooded crows, hedge sparrows, hawks, siskins, common larks, black-throated larks, titlarks, smaller larks, judcocks, land rails, combs from the heads of cocks, fowl and turkey legs and feet, buzzards, curlews, small stints, redwings, pochards, falcons, civetta owls, whinchats, windhover hawks, kites, stone curlews, jackdaws, shoveler ducks, gobbo ducks, hedghogs, water-hens, spotted water-hens, bitterns, mergansers, stormcocks, porcupines, foxes, goats, kids, yellow wagtails, fieldfares, hooting owls, horned owls, barn owls, wheatears, redstarts (three species), nightingales, yellow-breasted chats, stonechats, brown-headed shrikes, common shrikes, little terns, gulls, Guinea fowls, goat-suckers, eggs from the ovarium of all sizes, wind eggs, larger white egret, common heron, turkeys, guts of turkeys and common fowls, swifts, swallows, starlings, little bitterns, white-winged bitterns, large bitterns, bullfinches, chaffinches, water tortoises, turtle-doves, water rails, shags, red-throated mergansers, badgers, lesser spotted woodpeckers, smallest woodpeckers, green woodpeckers, small white-

There stands in this enclosure a magnificent grove of stone pines, vast in their dimensions, and towering in their height. Here the harmless jackdaw nestles, here the hooded crow is seen, here the starling breeds in numbers, and here the roller, decked in all the brilliant plumage of the tropics, comes to seek his daily fare. But, as far as I could perceive, after two seasons of observation, he does not make his nest in the trees. Holes in lofty walls, and in stately ruins, are the favourite places for his nidification. The cradle plumage of his young displays the metallic colours of after-life; hence there is no perceptible difference in the appearance of the adult male and female. After passing the summer months in Europe, he returns to Africa at the autumnal equinox.

The aerial movements of this bird put one in mind of our own rook, when in the act of shooting downwards from on high. He rises perpendicularly, and then descends in rapid zigzag evolutions, during which process, if you get betwixt the sun and him, you have a magnificent view of his lovely plumage. His voice has something in it of the united notes of the jay and magpie.

Innovations in modern ornithology, so prolific of scientific confusion and unimportant distinctions, have removed this bird from the family of Pie, where it had had a place from time immemorial; thus rendering useless its most ancient name of Pica marina.

It was known in the time of the Romans. *Picus in auspiciis avis observata Latinis;* and it was also admitted into heathen mythology. Virgil alludes to the beautiful colours in its wing; and above two thousand years ago, when the gods used to change men into other animals, just as easily as we now-a-days change our Acts of Parliament, the Pica marina was both king and horsebreaker, *equum domitor*. He

throated mergansers, common wrens, common gold-crested wrens, splendid golden-crested wrens, house sparrows, mountain sparrows, mountain sparrows with yellow speck on the throat, olive-throated bunting, crested grebes, Canary birds, hoopoes, rollers, bee-eaters, golden orioles. Add to this list butcher's meat of all descriptions, and the finest fruits and vegetables and flowers.

N.B.—If a man cannot get fat in this city at a very moderate expense, it must be his own fault.

was married to the celebrated Circe, an enchantress of the first order; she who changed the sailors of Ulysses into swine. The royal horse-breaker had unfortunately shown a partiality for a young woman in his own neighbourhood, a thing not altogether unknown in our days. This so enraged his wife, that with her magic rod, far more potent than finger nails, she transformed him into a bird; and at the same time bespangled his wings with beautiful colours.

"Fecit avem Circe, sparsitque coloribus alas."

THE STARLING.

"I CAN'T get out, I can't get out," said the starling. I know not any thing, except Gay's "Hare and many Friends," that made so much impression on me, when a boy, as Sterne's description of the captive starling in its cage. His attempt to relieve the prisoner bird,—its pressing its breast against the wires,—its telling everybody who came down the passage that it could not get out,—its remaining in hopeless captivity,—all tended to make this pretty bird particularly interesting to me; and, in days long past, I have spent many an hour in listening to its morning warblings, and in admiring its aerial evolutions towards the close of day. I wish I could do it a friendly turn, for the pleasure it has so often afforded me; but in taking up the pen to clear its character, my heart misgives me, on account of the strong public prejudice against it.

There is not a bird in all Great Britain more harmless than the starling; still it has to suffer persecution, and is too often doomed to see its numbers thinned by the hand of wantonness or error. The farmer complains that it sucks his pigeons' eggs; and when the gunner and his assembled party wish to try their new percussion locks, the keeper is ordered to close the holes of entrance into the dovecot overnight; and the next morning three or four dozen of starlings are captured to be shot: while the keeper, that slave of Nimrod, receives thanks, and often a boon, from the surrounding sportsmen for having freed the dovecot from such a pest. Alas! these poor starlings had merely resorted to it for shelter and protection, and were in no way responsible for the fragments of egg-shells which were strewed upon the floor. These fragments were the work of deep-designing knaves, and not of the harmless starling. The rat and the weasel were the real destroyers; but they had done the deed of mischief in the dark, unseen and unsuspected; while the stranger starlings were taken, condemned, and executed, for having been found in a place built for other tenants of a more profitable description. After the closest examination of the form and economy of the starling, you will be at loss to produce any proof of its being an egg-sucker. If it really sucks the eggs of pigeons, it would equally suck the eggs of other birds; and those eggs not being concealed in the dark recesses of the pigeoncot, but exposed in open nests on the ground, and often in the leafless bushes of the hedge, this fact would afford to the inquisitive naturalist innumerable opportunities of detecting the bird in its depredations. Now, who has ever seen the starling in the absolute act of plundering a nest? It builds its nest here, in company with the ringdove, the robin, the greenfinch, the wagtail, the jackdaw, the chaffinch, and the owl, but it never touches their eggs. Indeed, if it were in the habit of annoying its immediate neighbours, upon so tender a point as that of sucking their eggs, there would soon be hue and cry against it; nor would the uproar cease until the victor had driven away the vanquished. So certain am I that the starling never sucks the eggs of other birds, that, when I see him approach the dovecot, I often say to him, "Go in, poor bird, and take thy rest in peace. Not a servant of mine shall surprise thee, or hurt a feather of thy head. Thou dost not come for eggs, but for protection; and this most freely I will give to thee. I will be thy friend in spite of all the world has said against thee; and here, at least, thou shall find a place of safety for thyself and little ones. Thy innocence and usefulness demand this at my hands."

The starling is gregarious; and I am satisfied in my own mind that the congregated masses of this bird are only dissolved at the vernal equinox, because they have not sufficient opportunities afforded them of places wherein to build their nests. If those opportunities were offered them, we should see them breeding here in multitudes as numerous as the rook. They require a place for their nest well protected from the external air. The inside of the roof of a house, a deep hole in a tower, or in the decayed trunk or branch of a tree, are places admirably adapted for the incubation of the starling; and he will always resort to them, provided he be unmolested. The same may be said of the jackdaw.

Attentive observation led me to believe that the great bulk of starlings left our neighbourhood in the spring, solely for want of proper accommodation for their nests. For many years, only two pairs of starlings remained on my island. One of them regularly built its nest in the roof of the house, having found entrance through a neglected aperture; the other reared its young, high up, in the deep hole of an aged sycamore tree. Two or three pairs frequented the dovecot: but I observed that they built their nests in the crannies, and not in the holes made for the pigeons. These poor birds, together with the owl, had to suffer persecution from wanton ignorant servants, until I proclaimed perpetual peace in their favour, and ordered, I may say, the Temple of Janus to be shut, never more to be opened during my time.

Having been successful in establishing the owl in the old ivy tower over the gateway, I conjectured, from what I had observed of the habits of the starling, that I could be equally successful in persuading a greater number of these pretty lively birds to pass the summer with me. I made twenty-four holes in the old ruin; and in the spring of this year I had twenty-four starlings' nests. There seemed to be a good deal of squabbling about the possession of the holes; till at last might overcame right. The congregated numbers suddenly disappeared, no doubt with the intention of finding breeding quarters elsewhere; and the remaining four and twenty pairs hatched and reared their young, causing, I fear, the barn owls, their next-door neighbours in the tower, many a sleepless day, by their unwelcome and incessant chatterings. On the one hand, when we consider how careful the starling is in selecting a place for its incubation, sheltered from the storm; and, on the other, when we look around us, and see how many old houses have been pulled down, where these birds found a refuge; and when we reflect how modern luxury, and the still more baneful turf, have forced many a country squire to fell his aged oaks, his ash trees, and his sycamores, which afforded the starling a retreat, it will not require the eyes of Argus to enable naturalists to discern the true cause why such numbers of assembled starlings take their leave of us in early spring. This year, seven pairs of jackdaws, twenty-four pairs of starlings, four pairs of ringdoves, the barn owl, the blackbird, the robin, the redstart, the house sparrow, and chaffinch, have had their nests in the old ivy tower. The barn owl has had two broods; and, while I am writing this, there are half-fledged young ones in the nest. As far as I can learn, there has been no plundering of the eggs of this community, on the part of the starlings.

Now that autumn has set in, the movements of this delightful assemblage of birds already warn us to prepare for winter's chilling blasts. The redstart is gone to Africa: the chaffinch has retired to the hawthorn hedges: the ringdoves, having lost half of their notes by the first week in October, became mute about ten days ago, and have left the ivy tower, to join their congregated associates, which now chiefly feed in the turnip fields, and will return no more to the ivy tower until the middle of February. The jackdaws are here, morning and evening, and often at noon; and at nightfall they never fail to join the passing flocks of rooks in their evening flight to their eastern roosting-place at Nostell Priory, and return with them after daybreak. The starlings retire to a dense plantation of spruce fir and beech trees, and in the morning come to the ivy tower to warble their wild notes, even when the frost sets in. These birds are now in their winter garb, which they assumed at the autumnal equinox, much duller, and of a more grayish-white appearance, than that which they had in the summer. I cannot find that naturalists have noticed this change.

The starling seems to be well aware of the peaceful and inoffensive manners of the windhover. This hawk rears its young in a crow's old nest, within two hundred yards of the ivy tower. Still, the starlings betray no fear when the windhover passes to and fro, but they become terribly agitated on the approach of the sparrowhawk. I often see this bold destroyer glide in lowly flight across the lake, and strike a starling and carry it off, amid the shrieks and uproar of the inhabitants of the tower and sycamore trees. The starling shall always have a friend in me. I admire it for its fine shape and lovely plumage; I protect it for its wild and varied song; and I defend it for its innocence.

THE STORMCOCK.

> "Te, dulcis conjux, te solo in littore secum,
> Te, veniente die, te, decedente, canebat."
>
> "For thee, sweet mate, for thee he pour'd his lay,
> At early dawn, and at the close of day."

It is a pleasing and ingenious way to account for the song in birds, by supposing that it is given to them by Nature, in order that they may enliven the female during the lonely task of incubation. At that interesting season of the year, one might really imagine that the song of the male is absolutely uxorious; and, in truth, it may be, for aught I know to the contrary. No cow ever chewed her cud more deliberately than I have weighed this matter in my own mind; and, after all, I am not one jot the wiser. My speculations in April have all been shivered to atoms in November, and I am left in the midst of uncertainty. To-day, I hear a male bird singing close to the bush where his female is on her nest; and, five months hence, I shall hear a male bird sing, in apparent ecstasy, when the chilling season of the year peremptorily forbids the female to make any preparations for the nursery. Baffled at every point, I sometimes peevishly ask myself, Why should Nature have made a provision in the male blackbird, in order that he may soothe his incubating female, and have denied that provision to my favourite, the carrion crow? And then I answer my own question, by whispering to myself, that the she carrion may possibly experience wonderful delight in listening to the hoarse croaking of her partner; just as the old Scotchwoman did when she used to gaze at the carbuncle on her husband's nose. In a word, I know nothing, absolutely nothing, about the song in birds. The raven will whistle you a tune so true and pleasing that you feel quite enchanted with his performance; whilst his congener, the carrion crow, notwithstanding all your pains to instruct him, will remain as unmusical as Paddy's fiddle, which was dumb for want of catgut. We listen with delight to the many species of male birds which make the groves resound with their melody; and we cannot imagine why the females so seldom venture an attempt at song; for we know that with us both ladies and gentlemen are full of fine sounds. Wherever a Braham is heard, there is sure to be a Billington not far off.

However, should it be the case, in ornithology, that Nature has ordered the male to sing his female to repose, there are some exceptions to the supposed general rule. I may adduce the stormcock, by way of example, for he warbles nearly the year throughout. I have often heard him pour forth his wild and plaintive notes in the months of August, October, November, and December, and in every following month, until the sun has entered into Cancer, at which period he seems to unstring his lyre for a few weeks. Towards the close of December his song is particularly charming; and it becomes more frequent as the new year advances. I remember well (indeed, I noted down the circumstance), that on December 21, 1827, his carol was remarkably attractive. He warbled incessantly from the top of a lofty elm, just as the poor from a neighbouring village were receiving corn under it, in memory of St. Thomas the Apostle. In the olden time, it was a common practice throughout the land to distribute corn to the needy, on the day in which the festival of this glorious saint is kept. At present the good dole seems fast approaching to its latter end. Probably in a few years more it will fall a victim to the times, and be trodden under foot in the modern march of intellect.

This bird, though usually known by the name of the misletoe thrush in many parts of England, is invariably called the stormcock by all the lower orders in our neighbourhood; not that it delights in storms more than in fine weather, but that Nature has taught it to pour forth its melody at a time of the year when the bleak winds of winter roar through the leafless trees. Should, however, a few days of calm and warmth succeed to the chilling blast, then the stormcock is heard to sing if anything more sweetly than before.

The stormcock is a decided inhabitant of trees, except sometimes when in quest of food; for at that time he may be seen on the ground, and in berry-bearing shrubs. But in shrubs I have never been able to find his nest, which is generally placed either in the forked branches of the forest trees, or in those of the larger fruit trees, sometimes very high up, and sometimes within five feet of the ground. The outside of the nest is composed of dried grass, to which is added a little green moss; whilst the inside contains a lining of dried grass alone, on which the female commonly lays five eggs, speckled over with chocolate-coloured spots, of a lighter and a darker shade, on a grayish-green ground.

During the period of the breeding season, the habits of the stormcock undergo a noted change. At other times of the year, except in cherry-time, and when the seeds of the different species of the service tree are ripe, this bird carefully avoids the haunts of man; but no sooner does the time arrive in which it has to make its nest, than it draws near to our habitations with the utmost confidence, and forms its nest in places the most exposed to our view. There both male and female protect their charge with matchless courage. On the approach of an enemy you immediately hear their singular cry, which somewhat resembles the sound produced by striking the teeth of a comb smartly with your finger; and you see the parent birds dashing incessantly at the crow, the cat, or the magpie, until they clear the coast. This year there is a stormcock's nest within fifteen yards of the place where the masons are at work. Our tame magpie, which is allowed its freedom, and the use of its wings, seized the female, some days ago, and brought her close to the masons. The male bird instantly came up, and rescued his mate, by fighting the magpie, until he made it let go its hold. *Causa viæ conjux.* It was to save his female that he advanced so undauntedly into the midst of his mortal enemies: nothing else could have induced him to face the danger. I fancy that I hear him say—

> ——"Si fata negant veniam pro conjuge, certum est,
> Nolle redire mihi: letho gaudete duorum."

"If you won't give my poor dear up to me, here I stay; you may kill us both." This loving couple retired triumphant to their nest; but the female lost half of her tail in the fray.

The stormcock surpasses all other thrushes in size, and is decidedly the largest songster of the European birds. He remains with us the whole of the year; and he is one of three birds which charm us with their melody during the dreary months of winter, when the throstle and the lark are silent, and all the migratory birds have left us, to sojourn in warmer climates. On this account I prize him doubly. He appears to be gregarious in the months of August and September. I have occasionally counted from forty to fifty of these birds in a flock; and I suspect they are sometimes mistaken for an early arrival of fieldfares, by those who pay attention to the migration of birds.

The stormcock is remarkably fond of the berries of the mountain-ash. He who loves to see this pretty songster near his dwelling would do well to plant a number of mountain-ashes in the midst of his pleasure-grounds: they are of quick growth, and they soon produce an abundance of berries. Whilst the fruit of these trees affords a delicious autumnal repast to the stormcock, the branches which bear the berries are well known to be an effectual preservative against the devilish spells of witchcraft. In the village of Walton I have two small tenants: the name of one is James Simpson, that of the other Sally Holloway, and Sally's house stands a little before the house of Simpson. Some three months ago I overtook Simpson on the turnpike road, and I asked him if his cow were getting better, for his son had told me she had fallen sick. "She 's coming on surprisingly, sir," quoth he. "The last time that the cow-doctor came to see her, 'Jem,' said he to me, looking earnestly at old Sally's house, 'Jem,' said he, 'mind and keep your cow-house door shut before the sun goes down, otherwise I won't answer what may happen to the cow.'—'Ay, ay, my lad,' said I, 'I understand your meaning; but I am up to the old slut, and I defy her to do me any harm now.'"—"And what has old Sally been doing to you, James?" said I. "Why, sir," replied he, "we all know, too well, what she can do. She has long owed me a grudge; and my cow, which was in very good health, fell sick immediately after Sally had been seen to look in at the door of the cow-house, just as night was coming on. The cow grew worse and worse; and so I went and cut a bundle of wiggin (mountain-ash), and I nailed the branches all up and down the cow-house; and, sir, you may see them there if you will take the trouble to step in. I am a match for old Sally now. She can't do me any more harm so long as the wiggin branches hang in the place where I have nailed them. My poor cow will get well in spite of her." Alas! thought I to myself, as the deluded man was finishing his story, how much there is yet to be done in our part of the country by the schoolmaster of the nineteenth century.

Waterton loved the song of this bird, and has made many notes of hearing it :—

" MISSELTOE THRUSH.—This bird congregates about the middle of August. I saw from forty to fifty of them flying together on the morning of the 19th of August 1828; and I saw a smaller flock of them the same afternoon."

" MISSELTOE THRUSH was singing sweetly on the 21st of December 1828."

" MISSELTOE THRUSH sang here on the 25th of October and the 6th of November 1829. The Common Thrush sang here from the 13th to the 20th of November 1829."

" STORMCOCK.—*August* 5, 1851.—Stormcocks congregated."

" *December* 21, 1852.—In full song, also hedgesparrow."

" *January* 23, 1853.—Stormcock sang for the first time this season."

" THE MISSELTOE OR STORMCOCK THRUSH.—The stormcocks were singing here delightfully on the 13th of December 1863."

THE CHAFFINCH.

"The thrushes chatter'd with affright,
The nightingales abhorr'd his sight;
And every beast before him ran,
To shun the hateful sight of man."—GAY.

TIME was when the pretty denizens of air had no friend to encourage them to settle in this part of the country. They were slain without pity, or were chased away by every intruding gunner who took pleasure in pursuing them, and whose heart never throbbed at the sight of the poor bleeding bird which lay dead at his feet. Thus the melody of the vernal thrush, and the plaintive notes of the ring-dove, scarcely ever announced to us the arrival of that interesting time of the year when Nature awakes from her long and dreary sleep of winter. These sweet choristers of the grove were said to do mischief in the orchard and in the kitchen garden; and this was a sufficient pretext to place them in no other light than that of common outlaws, to be punished with death whenever an opportunity should offer. The little chaffinch, too, was to have no favour shown to him. He was known to haunt the beds of early radishes; and he would have done a deal of damage there, forsooth, had not our gardener luckily been allowed the use of a gun, with which he managed to kill, or to drive away, every chaffinch, thrush, and blackbird, that arrived within the precinct of his horticultural domain.

But this promiscuous slaughter has ceased at last. Every bird, be his qualities bad or good, is now welcome here, and still nothing seems to go wrong, either in the orchard or in the garden. Neither does the protection afforded to them appear to act to my disadvantage in other quarters. The dovecot is most productive, notwithstanding that a colony of starlings (those pests to all dovecots in the eyes of farmers) exists within a stone's-throw of it. The pheasants are crowing in every wood around; nor do the hoarse croakings of the carrion crows, or the frequent chatterings of the magpies, cause me any apprehensions that there will be a deficiency in the usual supply of game. The chief way to encourage birds is to forbid the use of fire-arms in the place of their resort. I have done so here; and to this precaution I chiefly owe my unparalleled success. We have a tame magpie in the stable yard. It is the same bird that is mentioned in my paper on the stormcock. Being one of the tribe whose plumage in the nest has the colours of that in after-life, you cannot decide whether it is a male or a female. However, it has paired with a wild one; and although the wariness of the magpie is proverbial, nevertheless this strange bird will actually come and feed within a few yards of us, without betraying any symptoms of fear. For these two years, a Canada goose and gander, attracted hither by the quiet which this place affords, have made their nest on a little island of alder trees. Although the female has laid five eggs each year, still there has been no brood. The gander seems to have been aware that something was going on wrong in his establishment, for this spring the old gentleman has taken care to introduce an extra female. Were Ovid, that excellent ornithologist, now on earth, he would tell us that this he-goose, dissatisfied with our law of monogamy, has been as far as Constantinople, to buy a license for a plurality of wives.

Amongst all the pretty warblers which flit from bush to bush before me, as I wander through the flowery fields, next to poor cock robin, the chaffinch is my favourite bird. I see him almost at every step. He is in the fruit and forest trees, and in the lowly hawthorn; he is on the house top, and on the ground close to your feet. You may observe him on the stack-bar, and on the dunghill; on the king's highway, in the fallow field, in the meadow, in the pasture, and by the margin of the stream. If his little pilferings on the beds of early radishes alarm you for the return of the kitchen garden, think, I pray you, how many thousands of seeds he consumes, which otherwise would be carried by the wind into your choicest quarters of cultivation, and would spring up there, most sadly to your cost. Think again of his continual services at your barn door, where he lives throughout the winter, chiefly on the unprofitable seeds, which would cause you endless trouble were they allowed to lie in the straw, and to be carried out with it into the land, on the approach of spring.

His nest is a paragon of perfection. He attaches lichen to the outside of it, by means of the spider's slender web. In the year 1805, when I was on a plantation in Guiana, I saw the humming-bird making use of the spider's web in its nidification; and then the thought struck me that our chaffinch might probably make use of it too. On my return to Europe, I watched a chaffinch busy at its nest: it left it, and flew to an old wall, took a cobweb from it, then conveyed it to its nest, and interwove it with the lichen on the outside of it. Four or five eggs are the usual number which the chaffinch's nest contains; and sometimes only three. The thorn, and most of the evergreen shrubs, the sprouts on the boles of forest trees, the woodbine, the whin, the wild rose, and occasionally the bramble, are this bird's favourite places for nidification. Like all its congeners, it never covers its eggs on retiring from the nest, for its young are hatched blind.

There is something peculiarly pleasing to me in the song of this bird. Perhaps association of ideas may add a trifle to the value of its melody; for when I hear the first note of the chaffinch, I know that winter is on the eve of his departure, and that sunshine and fine weather are not far off. His first song tells me that in a day or two more we shall hear the cooing of the ringdove, and see it rise and fall in the air, as it flies from grove to grove, and that this pretty pigeon, so shy and wary during the winter, will, in a day or two more, allow me to approach within ten paces of it, as it feeds on the new springing verdure of the lawn. Say, ye learned in ornithology,—say what is it that causes this astonishing change in the habits of the ringdove; and forces it, I may say, to come close to our dwellings, and to coo incessantly from early February into late October; and then to shun our society abruptly, as though we had never befriended it at all? The chaffinch never sings when on the wing; but it warbles incessantly on the trees, and on the hedgerows, from the early part of February to the second week in July; and then (if the bird be in a state of freedom) its song entirely ceases. You may hear the thrush, the lark, the robin, and the wren, sing from time to time in the dreary months of winter; but you will never, by any chance, have one single note of melody from the chaffinch. Its powers of song have sunk into a deep and long lasting trance, not to be roused by any casualty whatever. All that remains of its voice, lately so sweet and so exhilarating, is the shrill and well-known monotonous call, which becomes remarkably distinct and frequent whenever the cat, the owl, the weasel, or the fox are seen to be on the move.

We are told that in the winter season the female chaffinches separate from the males, and migrate into distant countries. I have not been able to ascertain that so ungallant a divorce takes place in this part of the country. The chaffinches assemble here with their congeners during the period of frost and snow, and you may count amongst them as many females as males.

Sad and mournful is the fate which awaits this harmless songster in Belgium and in Holland, and in other kingdoms of the Continent. In your visits to the towns in these countries, you see it outside the window, a lonely prisoner in a wooden cage, which is scarcely large enough to allow it to turn round upon its perch. It no longer enjoys the light of day. Its eyes have been seared with a redhot iron in order to increase its powers of song, which, unfortunately for the cause of humanity, are supposed to be heightened and prolonged far beyond their ordinary duration by this barbarous process. Poor chaffinches, poor choristers, poor little sufferers! My heart aches as I pass along the streets, and listen to your plaintive notes. At all hours of the day we may hear these hapless captives singing (as far as we can judge) in apparent ecstasy. I would fain hope that these pretty prisoners, so woe-begone, and so steeped in sorrow, to the eye of him who knows their sad story, may have no recollection of those days when they poured forth their wild notes in the woods, free as air, "the happiest of the happy." Did they remember the hour when the hand of man so cruelly deprived them both of liberty and eyesight, we should say that they would pine in anguish, and sink down at last, a certain prey to grief and melancholy. At Aix la Chapelle may be seen a dozen or fourteen of these blind songsters, hung out in cages at a public house, not far from the Cathedral. They sing incessantly, for months after those in liberty have ceased to warble; and they seem to vie with each other which can carol in the loudest strain. There is something in song so closely connected with the overflowings of a joyous heart, that when we hear it, we immediately fancy we can see both mirth and pleasure joining in the party. Would, indeed, that both of these were the constant attendants on this much-to-be-pitied group of captive choristers! How the song of birds is involved in mystery! mystery probably never to be explained. Whilst sauntering up and down the Continent in the blooming month of May, we hear the frequent warbling of the chaffinch; and then we fancy that he is singing solely to beguile the incubation of his female, sitting on her nest in a bush close at hand. But on returning to the town, we notice another little chaffinch, often in some wretched alley, a prisoner with the loss of both its eyes, and singing, nevertheless, as though its little throat would burst. Does this blind captive pour forth its melody in order to soothe its sorrows? Has Omnipotence kindly endowed the chaffinch with vocal faculties, which at one time may be employed to support it in distress, and at another time to add to its social enjoyments? What answer shall we make? We know not what to say. But be it as it will, I would not put out the eyes of the poor chaffinch, though, by doing so, I might render its melody ten times sweeter than that of the sweet nightingale itself. Oh that the potentate, in whose dominions this little bird is doomed to such a cruel fate, would pass an edict to forbid the perpetration of the barbarous deed! Then would I exclaim, "O king of men, thy act is worthy of a royal heart. That kind Being, who is a friend to the friendless, shall recompense thee for this."

February 16, 1835.—This morning the chaffinch sang for the first time this season.

RARE OCCURRENCE.—*November* 30, 1849.—This day was calm and sunny; but there had been a keen frost during the night. At half-past nine in the morning, a chaffinch was singing in full song, on one of the sycamore trees on this island. I watched it while it was singing, and I left it singing. This was the first wild chaffinch I ever heard sing later than the middle of July.—*From one of Waterton's note-books.*

THE WREN, THE HEDGE SPARROW, AND THE ROBIN.

THE song of these three well-known warblers may be termed perennial. Formerly it was very rare for me to hear the notes of the second, whilst the storms of winter raged through this little valley. But now, it is otherwise; for the yew shrubs, which have grown up into a spacious cover, seem to be more congenial to the habits of the hedge sparrow than any other evergreen; and it may be seen perched near the top of these, and warbling there, from time to time, in every month of the year.

As I am not yet a convert to the necessity or advantage of giving to many of our British birds the new and jaw-breaking names which appear on the page of modern ornithology, I will content myself with the old nomenclature, so well known to every village lad throughout the land.

There is a problem to be solved in the economy of these three soft-billed little birds, before we can safely come to the conclusion, that severitv of climate, and want of food, are the real causes why our summer birds of passage leave us shortly after the sun has gone down into the southern hemisphere. Like them, the wren, the hedge sparrow, and the robin, are insectivorous, and they differ not in the texture of their plumage; still, they do not accompany their departing congeners, but prefer to remain in this cold and stormy quarter of the world throughout the whole of the year. They may certainly suffer more or less during the chilling period of frost and snow; nevertheless, their breed is always kept up; and we find, on the return of spring, that they have not suffered more than others which are apparently better suited to brave the rigour of an English winter than they are.

There is yet another point which wants settling in the habits of these birds. I allude to their song. When we are informed that incubation is the main inducement to melody in the feathered tribe, we have only to step out after sunrise into the surrounding evergreens, and there we are sure to hear either the wren, the hedge sparrow, or the robin, in fine song, although not a single twig has been laid, or a piece of moss produced in furtherance of a nest, wherein to raise their future young. Certainly, in this case, neither love nor warmth could have had any hand in tuning the winter lyre of these little sons of Orpheus.

It now and then happens that we are led astray by our own feelings when we pronounce judgment on the actions of irrational animals. There is a pretty good proof of this in the story which we have of the American polecat. On being told that this ill-scented animal discharges a "fluid given him by Nature as a defence," I cannot refrain from asking, by what power of intuition the polecat is convinced that a smell, naturally agreeable to itself, is absolutely intolerable to man? Did birds and beasts speak an intelligible language, as they are said to have done in the days of Ovid, we should get at their true history with greater ease; and our ornithology would be much more free from the romance which at present pervades it.

The wren is at once distinguished in appearance from our smaller

British songsters by the erect position of its tail. Its restlessness, too, renders it particularly conspicuous; for, when we look at it, we find it so perpetually on the move, that I cannot recollect to have observed this diminutive rover at rest on a branch for three minutes in continuation. Its habits are solitary to the fullest extent of the word; and it seems to bear hard weather better than either the hedge sparrow or the robin; for whilst these two birds approach our habitations in quest of food and shelter, with their plumage raised as indicative of cold, the wren may be seen in ordinary pursuit, amid icicles which hang from the bare roots of shrubs and trees, on the banks of the neighbouring rivulets; and amongst these roots it is particularly fond of building its oval nest.

The ancients called the wren Troglodytes; but it is now honoured with the high-sounding name of Anorthura; alleging for a reason that the ancients were quite mistaken in their supposition that this bird was an inhabitant of caves, as it is never to be seen within them. Methinks that the ancients were quite right—and that our modern masters in ornithology are quite wrong. If we only for a moment reflect that the nest of the wren is spherical, and is of itself, as it were, a little cave, we can easily imagine that the ancients, on seeing the bird going in and out of this artificial cave, considered the word Troglodytes an appropriate appellation.

The habits of the hedge sparrow are not quite so solitary as those of the wren. It will approach the window in cold weather, and there pick up a scanty meal with the robin, the chaffinch, and the house sparrow. Still, we very rarely see three hedge sparrows in company. As these birds inhabit low shrubs and the bottoms of hawthorn fences, and are ever on the stir amid old pieces of wood and lumber, put apart for the use of the farmyard, we cannot be surprised that they, as well as the robin and the wren, which are fond of such localities, should fall an easy prey to the cat, the weasel, the foumart, and Hanoverian rat, which last all the world knows to be uncommonly ravenous. To these plunderers, we may possibly attribute the cause why, from year to year, there is no apparent increase in the number of these lowly winter-songsters, be the protection afforded them ever so great.

I have a Tom-cat here of surprising size and beauty. He would have swung long ago, on account of his well-known depredations amongst these birds, had it not been that he is a universal favourite with the household, and particularly caressed by the ladies for his engaging manners. It is supposed, and with too much reason, that he murdered two fine cock pheasants only a week ago. Indeed, I had no doubt in my own mind but that he was the real culprit, although a stranger cat was taken up at the time and hanged for the offence. My conscience rebuked me for partiality on that occasion; and I felt that I had done wrong. But it was only an affair with a cat; and I trust that the public will overlook it, when we reflect that, only the other day in Dublin, a high dignitary of the law did exhibit such palpable partiality in a cause of "Victoria *versus* Repeal," that he ought to have been unwigged there and then, and banished for ever from that arena of marked injustice to poor ould Ireland and her patriot sons.

We are still in uncertainty, and probably must ever remain so, concerning the story of the newly hatched cuckoo in the nest of the hedge sparrow. It is an undisputed fact in natural history that the cuckoo, like some of our own species, has a clever knack at freeing itself from the duty of providing for its own offspring. This bird is notoriously partial to the homestead of the hedge sparrow; and thus many a poor hedge sparrow is saddled with the care and expense of rearing the young of an alien, whose manners and customs are totally different from those of her own tribe. We learn from the story in question, that a young cuckoo, the day after it was hatched, contrived to get a young hedge sparrow (which was in the same nest with itself) on its back, and proceeded with it, stern foremost, up the side of the nest; and, on arriving at the summit, jerked its load into the hedge below. The performance of such a feat is impossible. At that period of existence, the legs of the young cuckoo could not support the weight of its own body, to say nothing of the additional load of another upon that body. Again, the supposed act was quite contrary to any instinct with which the young cuckoo might have been endowed; for, had not the old bird been frightened away, she would have been sitting on the two young ones at the time in which the feat was said to have taken place; and her covering them would have totally prevented such a movement on the part of either of them. The whole narrative is confused, and wants explanation.

The last of this sweetly warbling trio, whose habits I am attempting to describe, is pretty cock robin, the delight of our childhood, and an object of protection in our riper years. Wherever there is plenty of shelter for him, his song may be heard throughout the entire year, even in the midst of frost and snow. In the whole catalogue of British birds, cock robin is the only one which, in his wild state, can be really considered familiar with man. Others are rendered tame by famine and cold weather, and will cautiously approach the spot where food is thrown for them; but the robin will actually alight upon your table, and pick up crumbs on your own plate. When I have been digging in the pleasure-ground, he has come and sat upon my spade; and by every gesture proved his confidence. You cannot halt for any moderate time in the wood, but cock robin is sure to approach, and cheer you with an inward note or two; and on such occasions he has more than once alighted on my foot. This familiarity is inherent in him, and not acquired. I am not acquainted with any other wild bird that possesses it. In Italy this social disposition of his does not guarantee him from destruction by the hand of man. At the bird market near the Rotunda in Rome, I have counted more than fifty robin redbreasts lying dead on one stall. "Is it possible," said I to the vendor, "that you can kill and eat these pretty songsters?" "Yes," said he, with a grin; "and if you will take a dozen of them home for your dinner to-day, you will come back for two dozen to-morrow." It is the innocent familiarity of this sweet warbler which causes it to be such a favourite with all ranks of people in England. Nobody ever thinks of doing it an injury. "That's poor cock robin!—don't hurt poor cock robin," says the nursery maid, when her infant charge would wish to capture it. Mrs Barbauld has introduced cock robin into her plaintive story of "Pity;" and when we study the habits of this bird, and see that his intimacy with us far surpasses that of any other known wild one, we no longer wonder that the author of that pathetic ballad, "The Children in the Wood," should have singled out the redbreast amongst all the feathered tribe to do them the last sad act of kindness. They had been barbarously left to perish, and had died of cold and want.

Cock robin found them; and he is described as bringing leaves in his mouth, and covering their dead bodies with them.

> "Their pretty lips with blackberries
> Were all besmear'd and dyed;
> And when they saw the darksome night,
> They laid them down and cried.
>
> "No burial these pretty babes
> Of any man receives,
> Till robin redbreast, painfully,
> Did cover them with leaves."

This ballad has something in it peculiarly calculated to touch the finest feelings of the human heart. Perhaps there is not a village or hamlet in England that has not heard what befell the babes in the wood; and how poor cock robin did all in his power for them when death had closed their eyes. I wish it were in my power to do only half as much in favour of some other birds, as this well-known ballad of "The Children in the Wood" has done for poor cock robin.

THE HUMMING-BIRD.

"MAXIMUS IN MINIMIS CERNITUR ESSE DEUS."

I AM not satisfied with the accounts which naturalists have given us of this little animated aërial gem. Neither do the drawings of it please me; and as for the specimens themselves, in the museums both at home and on the Continent, they have, all of them, evidently been done by the hand of a man who knew not what he was doing. I wish to describe the figure and the habits of the humming-bird family so distinctly, that when young naturalists visit our museums they may be able to decide, without any hesitation, which is a humming-bird, and which is not. For this family is unique in the world, and its figure cannot be mistaken. All other known birds, saving the swifts, may be seen at one time or other on the ground. The humming-bird is never observed there.

The name "humming-bird" is aptly given; and for the sake of perspicuity, I shall retain it throughout the whole of the family; because every individual of it, from the largest to the smallest, produces the humming noise whilst on the wing; and this sound proceeds from the quick vibration of the wings which are scythe-like in form, and different in appearance from the wings of all other known birds.

Mr Audubon tells us that in one week the young of the ruby-throated humming-bird are ready to fly. One would suppose, by this, that they must be hatched with a good coating of feathers to begin with. Old Dame Nature sometimes performs odd pranks. We are informed that our crooked-back Dicky the Third was born with teeth; and Ovid mentions the astonishingly quick growth of certain men. He says, in his account of the adventures of Captain Cadmus, who built Thebes, that the captain employed some men as masons who had just sprung up out of the earth. I have read Mr Audubon's account of the growth of the humming-bird, and I have read Mr Ovid's account of the growth of Captain Cadmus's masons, and both very attentively. I think the veracity of the one is as apparent as the veracity of the other. What, in the name of skin and feathers, I ask, has Mr Audubon found in the economy of the ruby-throated humming-bird to enable him to inform Englishmen that its young can fly in so short a space of time? The young of no other bird that we are acquainted with, from the condor to the wren, can fly when only a week old. The humming-bird, in every part of its body and plumage, is quite as perfect as the eagle itself; neither is it known to differ in the duration of its life from any of the smaller birds of the forest which it inhabits. Like them it bursts the shell in a state of nudity; like them it is blind for some days; and like them it has to undergo the gradual process of fledging, which is so slow in its operation, that I affirm, without fear of refutation, it cannot possibly produce, in the space of one short week, a series of feathers capable of supporting the bird through the air. Again the precocious flying of the young birds argues precocity of feathers; and this would authorise us to look for precocity of lustre in the male. But Mr Audubon informs us that the male does not receive its full brilliancy of colour until the succeeding spring; and I myself can affirm, from actual observation, that the additional plumage which adorns some humming-birds does not make its appearance till towards the middle of the second year.

Were it necessary, I could show to naturalists their error, in sometimes mistaking a male humming-bird of the first year for a full-plumaged female. I am fully satisfied in my own mind that the internal anatomy of all humming-birds is precisely the same, except in size; having found it the same in every humming-bird which I dissected in Guiana and Brazil. Now, as the young of the humming-birds in these countries require more than a week to enable them to fly, and as Mr Audubon's humming-bird differs not in internal anatomy from them, I see no reason why the young of his species should receive earlier powers of flying than the young of the humming-birds in the countries just mentioned. A word on the cradle. Mr Audubon tells us that the little pieces of lichen, used in forming the nest of the humming-bird, "are glued together with the saliva of the bird." Fiddle! The saliva of all birds immediately mixes with water. A single shower of rain would undo all the saliva glued work on the nest of Mr Audubon's humming-bird. When our master in ornithology (whose writings, according to Swainson, will be read when our favourite theories shall have sunk into oblivion) saw his humming-bird fix the lichen to the nest, pray what instrument did it make use of, in order to detach the lichen from the point of its own clammy bill and tongue, to which it would be apt to adhere just as firmly as to the place where it was intended that it should permanently remain?

No humming-birds have ever been discovered in the old world. For although both Africa and Asia contain minute birds of wonderful brilliancy in the metallic colours, still the legs of all these, without any exception, are sufficiently long to enable them to walk on the ground. But the legs of the humming-bird are useless on the ground. This I have already stated. As a distinctive mark, we may say that there is a proportional length of leg in all the small birds of the old world, useful when on the ground, but that, for want of this proportional length of leg in the humming-birds of the new world, the legs become useless when accident has brought down the bird from its aërial domain. The legs, then, of all humming-birds being notoriously short, I wish the young naturalist to keep this feature in mind. By so doing, when he enters a museum in any part of the world, he will perceive at one glance whether the specimen before him is a humming-bird from America, or whether it belongs to some other tribe of birds, no matter from what part of the world; even though it be decked in metallic colours, as these colours may be seen in other birds just as well as in the humming-birds. Let us now proceed to examine these resplendent gems of the new world in their component parts and habits. The entire tribe of humming-birds exhibits the same form of wings (with a trifling variation in some of the primary feathers), legs, and feet. But the bills in certain species vary to some extent. Some have the bill short and quite straight. In others it has a downward curve, in shape something like a cobbler's awl; whilst here and there we find other species with the end of the bill turned upwards, as in that of our own avoset. In the year 1806, I killed a humming-bird with its bill so formed, about forty miles up the river Demerara. It was sitting on a twig which was hanging over the water. In one species of humming-bird, found in the Carracas, the bill is quite straight, and of such an extraordinary length, that it appears disproportionate, and puts the observer in mind of a woodcock's bill. The bird itself is robed in a homely dress, somewhat deficient in metallic shades. When I was in Rome, a skin of this newly-discovered species was sent to Prince Canino, and offered to him for the enormous sum, if I recollect rightly, of eighteen pounds sterling. The Prince returned the skin, and I think he acted very wisely.

The humming-bird can never be seen upon the ground, unless it has had a fall. Nature has peremptorily ordered it to retire to the tree for rest, or for incubation, or for sleep, after it has fulfilled its duties on rapid wing through the azure vault of heaven. I may be allowed to use the word rapid, because I am quite sure that nobody has ever yet detected a humming-bird loitering on the wing, as our crows and pigeons will often do. The flight of this bird is as that of an arrow from a bow sent by some vigorous hunter. The bird is nearly invisible until it arrives at the food-bearing flower, where it remains on wing, apparently motionless to our eyes; such is the astonishing vibration of the pinions. Should it, by any chance, come to the ground before your face, its awkward struggles would show at once that it was quite out of its element. Indeed, let authors affirm what they choose to the contrary, you would see with your own eyes that it could neither hop nor walk; and that both its abdominal and caudal plumage had come in contact with the mire, for want of longer legs to sustain the bird in a proper attitude.

In forming its nest, the whole of the materials are collected from plants, trees, and spiders' webs. Some of these nests are beautifully formed of one uniform interwoven material, without any lining, and they put you in mind of brown tanned leather. Others have a delicate and an uncommonly soft lining, taken from the wild ipecacuanha. Many are placed upon the upper part of a horizontal branch, and are so studded with the lichen found on the tree, that it is no easy matter to distinguish the nest. Some are attached to the extremity of a pendant leaf, well secured by innumerable threads of the spiders' web, and forming a most curious sample of ornithological architecture. Nothing of the nature of glue, nor any other viscous substance, is made use of by the old bird in the fabrication of her nest. Spiders' web supplies the place of these; and we see, on inspection, that this is made use of by our own chaffinch in finishing the outside of its nest.

The form of the body in every individual of the humming-bird family is precisely the same, differing only in size. At the knees, in many species (indeed, in all, in a greater or a less degree), is found a profusion of delicately white feathery down. When this is made to appear in preserved specimens, a solecism is committed, in the art of what our learned doctors now call "taxidermy." No part of this feathery down ought to appear, whether the bird be on the wing or resting upon the twig of a tree. In nature, it is entirely concealed by the adjacent and surrounding feathers. The toes, and a very small portion of the foot, will sometimes appear in view; but rarely do you see the feet when the bird sits on the branch or twig; and never, by any chance, can you see the leg, no matter whether the bird be in motion or at rest.

When once the humming-bird has reached the branch, there it remains, quiet and motionless, like our domestic swallow; never moving to or fro, as other birds are wont to do. It adheres firmly to the spot where it first alighted, until its wants or its whims cause it to depart; when off it darts, bright as a refulgent meteor through the sky. Let me here remark that the humming-bird never perches when in the act of feeding; but invariably takes its nutriment whilst fluttering on the wing before a flower.

With a trifling variation, which may be called a flattening of the shafts in the primary wing-feathers of a few species, the form of the wings in the entire family is precisely the same. Hence every individual, great and small, will produce the same humming noise; with this difference, that it will sound stronger in the larger tribes, and weaker in the smaller ones.

Although the flight of these birds is rapid beyond conception, yet the individual which exercises it is never seen in an altitude much higher than the tops of the trees, nor so low as to sweep along, close to the ground, or to the surface of the water, as our swallows are wont to do. The course of humming-birds seems always directed to the locality where they can meet with food, either in the cups of flowers, or at a column of gnats, clustering in the void, at a moderate distance from the ground.

When the parasite plants of Guiana have come into full bloom, then is the proper time to find certain humming-birds, which you never fall in with when these parasites are only in leaf. I have sought for them whole months without success, until the blooming of the parasite plant informed me that I need labour in vain no longer. Once I had an odd adventure near a parasite bunch of flowers in the forest. I had been sitting about four hours on the ground, not much at my ease, for the sun was blazing in full splendour, when I heard a gentle rustling amongst the fallen leaves; and presently I saw a fine martin of the foumart family making slowly up to the place which I was occupying. On getting sight of me, it gave a kind of scream, as though it would have said, "Hallo, sir, I did not expect to find you here!" and then it instantly turned about, and took to the trees, I following it, and shouting at the top of my voice. This terrified it and increased its speed; and whilst it was in the act of vaulting from a branch, I fired at it, without raising the gun to my shoulder. Wonderful to relate! down dropped the flying martin—dead as Julius Cæsar. This is the first and last quadruped I ever shot in mid-air.

Very great doubts may be entertained as to the song, or supposed song, of humming-birds. Although I was in the midst of humming-birds, I never heard the least attempt at it. Still, the great French naturalist talks of singing humming-birds; but I imagine that he must have been wrongly informed, as the humming-birds of which he writes (and he had his information from an eye-witness) were only young birds a few weeks out of the nest. Now, we all know that this age, both in man and in birds, is too immature for the production of song. I am not a believer in humming-bird melody. If it do exist, it must come from a species hitherto unknown; and with a guttural formation quite different from that which obtains in the species already examined. These guttural parts are alike in the whole known family; and thus, if one bird can sing, they all ought to sing.

I can state positively, from long experience, that humming-birds are not gregarious in the usual acceptation of the word. Their incubation is always solitary; and although many dozens of them may be seen feeding at the scarlet flowers, for example, on the tree which the French call "Bois Immortel," those birds will have been seen to arrive, one by one, at the flowers, and to have retired from them, one by one, when the repast was over.

Neither the monkey nor the humming-bird, on account of the formation of the feet in this, and of the hands in that, can labour on the ground for their food. Yet, when they are in the right region to acquire it, there is a visible difference in their mode of proceeding. Thus the monkey sits on the branch, and in that position supplies its wants with what the tree produces. But the humming-bird must be on wing whilst it extracts food from the flowers; and never can it possibly be seen to take nourishment whilst perching on a twig.

This rule is absolute for the humming-bird.

The vault of heaven offers a large supply of food to these birds. It is interesting to see how they satisfy the call of hunger, by invading the columns of insects which frequent the circumambient atmosphere. Darting from the shade with the rapidity of a meteor, the humming-bird stops short at the column, and there, apparently motionless, it regales itself, and then departs as swiftly as it had approached.

Authors are divided as to the exact kind of food which humming-birds require. In all the species which I have inspected (and I have inspected not a few), I have found insects, or fragments of insects, in the œsophagus; and occasionally, by applying my tongue to the contents of the stomach, I have experienced a sweet taste, as though of sugar and water. Still, were I asked if I considered that the nectar in flowers constituted the principal food of humming-birds, I should answer in the negative. Insects form their principal food. The robust frames of these birds seem to require something more solid to support life, than the nectareous dew abstracted from flowers; and I don't exactly see, if these birds do principally exist on this kind of nutriment, how it is that they continue to keep it pure in their own hot stomachs; and then, by a process unknown to us, convey it to the stomachs of their gaping little ones. But the schoolmaster has left his closet and gone abroad. Perhaps he will clear away a good part of the mist which still envelops this ornithological section of natural history. Let us hope for the best.

Within the tropics, we find nearly the whole of the numerous family of humming-birds. The Supreme Ruler of the universe, who has peremptorily ordered the sun never to transgress the boundary marked out for its annual course in the everlasting highway of the flaming zodiac, has equally insisted that these lovely little birds, with here and there an exception, should keep in the same track with the glorious luminary himself. Those exceptions which wander farther on into the temperate and, possibly, Arctic regions, will not stay there after the sun has reached the equator in his returning journey. They belong to the torrid zone, and there alone can they find their nutriment in the winter months. It is in the torrid zone, then, of the new world that we are to look for the family of the humming-bird in all its species,—a family adorned with plumage of such amazing brilliancy as to compete with, if not surpass, the united splendour of our most precious stones themselves. Let the young naturalist imagine blue, white, red, yellow, green, crimson, lake, and purple, with all the intermediate shades, blended into each other, producing a most fascinating effect, and then he will form a faint idea of the transcendent beauty which adorns the plumage of these living gems.

I once possessed a humming-bird, which wonderfully attracted the attention of the late worthy Mr Loddiges. He stood riveted to the spot as he examined it. Knowing that he had formed his own collection of humming-birds chiefly for the good of science, and aware that mine had no ulterior pretensions than to attract the passing notice of accidental visitors, I begged him to accept it. On returning to London, Mr Loddiges sent me a few fine specimens ot the thorn which bears a black berry, intimating that he had been assured that this species of thorn had attractions for the nightingale. These plants are now in fine vigour at Walton Hall.

No doubt, there are yet numerous species of humming-birds, brilliant as the morning-star, to be discovered in those far-distant and immeasurable wilds where, at the present time, perhaps, there is not one solitary rational being to admire the profusion of their metallic splendour, glowing like diamonds in their rich and loricated plumage.

"Full many a gem of purest ray serene,
The dark unfathom'd caves of ocean bear;
Full many a flower is born to blush unseen,
And waste its sweetness on the desert air."

THE PASSENGER PIGEON.

"Towards the approach of day, the noise in some measure subsided. Long before objects were distinguishable, the pigeons began to move off in a direction quite different from that in which they had arrived the evening before; and, at sunrise, all that were able to fly had disappeared. The howlings of the wolves now reached our ears, and the foxes, lynxes, cougars, bears, raccoons, opossums, and polecats were seen sneaking off." (*Biography of Birds*, by Audubon, p. 325.)

"Variarum monstra ferarum!"—VIRGIL.

MR AUDUBON may boast of a sight never before seen by mortal eyes under similar circumstances. Great, indeed, must have been the yearning for pigeon flesh, to have caused such a variety of wild animals to assemble there; and irresistible the flavour which induced them to tarry so long beyond their wonted time of prowling. Their very nature seems to have been changed. Their remaining at the pigeon-slaughter till the time of sunrise is a most wonderful circum stance, which demands investigation on the part of naturalists; for hitherto all these wild beasts which Mr Audubon has introduced into his description, have only been known as animals of nocturnal movements, and of very skulking and suspecting habits. In general, the flash of a gun, the crackling of a flame, or the shout of a huntsman, will scare any one of them, even when concealed in the lonely retreat; but, on this ever-memorable occasion, the nerves of the animals, both large and small, were strung up to an astonishing degree of intensity. The day had already dawned, unheeded by them; and it was only at sunrise that they seemed aware of being in dangerous company, and found that it was high time to sneak off from a place where, Mr Audubon tells us, "there was little underwood;" where "the uproar continued the whole of the night;" where men had assembled "with iron pots containing sulphur," and "with torches of pine-knots, with poles, and with guns;" where "fires were lighted, and a magnificent as well as wonderful and almost terrifying sight presented itself;" where, in fine, the auditory faculties of Mr Audubon himself became so completely useless, on account of the stunning noise, that absolutely he was "only aware of the firing by seeing the shooters reloading." "O judgment! thou art fled to brutish beasts, and men have lost their reason," if they can bring themselves to believe that into this sulphureous, torch-lighted, detonating, yelling, roaring, and terrific attack on the passenger pigeons, there came up a motley herd of wolves, foxes, cougars, lynxes, bears, raccoons, opossums, and polecats, to share the plunder, and actually tarried there till the rising of the sun; at which time, Mr Audubon informs us, they were seen sneaking off. He himself saw what he relates.

But let us pass on. "The pigeons," continues Mr Audubon, "arriving by thousands, alighted everywhere, one above another, until solid masses as large as hogsheads were formed on the branches all around." Solid masses! Our European pigeons, in a similar situation, would have been all smothered in less than three minutes. Mr Audubon informs us. towards the end of his narrative, that the feathers of this pigeon "fall off at the least touch." From this we may infer, to a certainty, that every pigeon which was unlucky enough to be undermost in the solid masses would lose every feather from its uppermost parts, through the pressure of the feet of those above it. Now, I would fain believe that instinct taught these pigeons to resort to a certain part of the forest solely for the purpose of repose, and not to undergo a process of inevitable suffocation, and, at the same time, to have their backs deprived of every feather, while they were voluntarily submitting to this self-inflicting method of ending their days.

"Many trees," says Mr Audubon, "two feet in diameter, I observed, were broken off at no great distance from the ground; and the branches of many of the largest and tallest had given way, as if the forest had been swept by a tornado. Everything proved to me that the number of birds resorting to this part of the forest must be immense beyond conception." I know that the force of a tornado will break the trunk of a tree two feet in diameter, because its force acts horizontally against the upright stem; but how is it possible that a multitude of pigeons, alighting upon a tree, could cause its upright bole, two feet in diameter, to break off at no great distance from the ground? The branches of the tree, which took their lead diagonally from the bole, might possibly have given way under a heavy pressure, because they were inclined more or less from their perpendicular; but the upright bole itself would stand uninjured, and defy for ever any weight that could be brought to bear upon it from above.

I now leave the assemblage of wild beasts, the solid masses of pigeons as large as hogsheads, and the broken trunk of the tree two feet in diameter, to the consideration of those British naturalists who have volunteered to support a foreigner in his exertions to teach Mr Bull ornithology in the nineteenth century.

The passages upon which I have just commented form part of "*the facts*" on which R. B., in the *Magazine of Natural History* (vol. vi., p. 273), tells us that the value of Mr Audubon's *Biography of Birds solely* rests. No wonder that, *ruit alto a culmine.* By the way, I observe at the end of that *Biography* a most laudatory notice by Mr Swainson. He tells us that Audubon contemplated Nature as she really is, not as she is represented in books: he sought her in her sanctuaries. Well, be it so; I do not dispute his word; still I suspect that, during the search and contemplation, either the dame herself was in liquor, or her wooer in hallucination.

THE RINGDOVE.

The supposed purity of the dove is a common topic with many writers; and their readers are apt to imagine that this bird has been more favoured by Nature than the rest of the feathered tribe. What may be allowed to romantic and sentimental composers, cannot by any means be conceded to writers on natural history. Genuine ornithology would be offended at the attempt to introduce unwarrantable matter into her pages; while her true votaries would always grieve on seeing it admitted into them. All wild birds which go in pairs are invariably attached to each other by Nature's strongest ties; and they can experience no feelings of what may be called mistrust or suspicions of unfaithfulness; otherwise we should witness scenes of ornithological assault and battery in every hedge and wood, during the entire process of their incubation. The soot-black crow is just as chaste, affectionate, and constant as the snow-white dove itself. The movements of both these birds, at a certain time of the year, tend exactly to the same point. They are inherent and unalterable in them, and, of course, are not to be repressed or changed. At the interesting period of incubation, Nature knows no distinction betwixt the cooing of the dove and the cackling of the goose. Both sounds express the same emotions, and are perfectly understood by the parties. They have only one plain and obvious meaning. Audubon's description of his love-sick turtle-dove, which listened with delight to her mate's "assurances of devoted affection," and was "still coy and undetermined, and seemed fearful of the truth of her lover," and, "virgin-like, resolved to put his sincerity to the test," is lovesome nonsense, as far as regards the feathered tribe;

and is a burlesque upon the undeviating tenor of Nature's course. Those who approve of such absurd aberrations from the line of instinct allotted to birds, would do well to confine their studies to the romances on their drawing-room tables. Let us hope that better days are in store for ornithology, and that when the ardent novice shall turn over the pages which may be really intended for his improvement in this fascinating study, he will find their contents in unison with what he will observe afterwards in Nature's boundless range.

If size and purity give a claim to priority, the ringdove will hold the first place in the scanty catalogue of the wild pigeons of Europe. It stays with us in Yorkshire the whole of the year; and, in the winter months, it resorts chiefly to the turnip fields for sustenance, where it feeds voraciously on the leaves, and not on the body, of the turnip. The leaves are said to impart a rank and disagreeable taste to the flesh of the bird; but this is easily prevented by cutting open the crop as soon as the pigeon is killed, and discharging the contents. White of Selborne recommends this process. Towards the evening the form of the ringdove becomes considerably changed. Having fed on the turnip tops during the course of the day, its crop gets so distended with food that it gives to the fore-part of the pigeon's body a very full appearance; and this is easily discerned as the bird passes over your head to its evening retreat. The contents of the stomach having been digested during the night, we observe that the body has regained its ordinary proportions at the break of day.

There has been a great increase of ringdoves during the winter season in this part of the country, since the farmers have paid so much attention to the cultivation of turnips. On seeing the congregated numbers of these birds, one is led to imagine that there must be an annual influx of them, at the close of autumn, from some far-distant part. As the ringdove is an unprotected bird, and much sought after on account of the delicacy of its flesh, I have strong doubts whether our breeding season can produce a sufficient supply to make up the flocks which are seen here in winter. At all events, in this quarter of Yorkshire, very few young ringdoves are allowed to escape. Farmers and gamekeepers are ever on the look-out to transfer them from the nest to the kitchen. These marauders are so perpetually on the watch, that it has never yet been my lot to find a ringdove's nest in our neighbouring woods with full-fledged young ones in it; although I am continually in the habit of straying into them, and looking for the nests with a careful and unwearied eye. Wherefore, I conclude that our winter flocks receive migratory individuals from distant regions.

The ringdove, by not feeding on insects, renders no service to man while visiting his fields. On the contrary, it is known to injure him considerably in his crop of rising clover. As soon as this plant begins, under the influence of the vernal sun, to expand its leaves, the ringdove attacks the heart-shoot with fatal severity, and much address is required on the part of the farmer to scare the birds from their favourite food. Leaving, however, the sons of Ceres to fight their own battles, I will merely add that this handsome bird is protected here. I love to listen to its soothing murmurs, and take intense pleasure in observing its habits during the breeding season, when it becomes fully as tame as the domestic pigeon. The housekeeper often hints to me that a couple of them would look extremely well on the table; and the farmer calls them devouring vermin. I receive the opinions of these respectable personages with perfect indifference, and I sometimes soothe them by observing that where the ringdove has one friend, it has a thousand enemies, ready to prepare it for the spit, or to prevent for ever its return to the clover field.

The ringdove lays two snow-white eggs on a nest which may be termed a platform of sticks, so sparingly put together, that the eggs are easily seen through it by an eye habituated to look for them. On inspecting this apparent commencement or remnant of a nest, one is led to surmise, at the first glance, that the young are necessarily exposed to many a cold and bitter blast during the spring of this ever-changing climate. "But God tempers the wind," said Maria, "to the shorn lamb;" and in the case before us, instinct teaches the parent bird to sit upon its offspring for a longer period after they are hatched than, perhaps, any other of the feathered tribe. In the meantime, the droppings of the young, which the old birds of some species carefully convey away, are allowed to remain in the nest of the ringdove. They soon form a kind of plaster strong and scentless. This adds consistency to the nest, producing, at the same time, a defence against the cold. The ornithologist, while going his autumnal beats, in quest of knowledge, on seeing this, will know immediately that the nest has contained young; should this be wanting, he may conclude that the nest has been abandoned at an early period. As he will find but very few nests with this species of plaster in them, he may conclude, to a certainty, that the ringdove has a host of enemies in this country, and that it is seldom fortunate enough to rear its young to that state in which the faculty of flying saves them from destruction.

No bird in the British dominions seems to resort to so many trees and shrubs for the purpose of incubation as the ringdove. Not a tree, from the towering pine to the lowly thorn, ever comes amiss to it. There is something, too, peculiarly singular in the locality of some of the nests. While one is seen placed nearly on the topmost branches of the lofty sycamore, another may be found within four feet of the ground, in the humble shelter of the hedge-row bush. Last year I found a ringdove sitting on one egg in a magpie's nest of the year gone by; and I observed another ringdove rearing two young ones in a spruce fir tree, below that of a magpie, out of which I had taken seven eggs, and substituted five of a jackdaw in their place. It was interesting to see these two species of birds, one so calm and gentle, the other so pert and roguish, thus close to each other at so critical a juncture. While I was observing them, I felt convinced that there are certain times in which birds are not so bent on plunder as we would fain suppose they are; and, moreover, that they can frequent each other's company in perfect peace and quiet. In this instance it appears that instinct showed the ringdove how to preserve her eggs from being plundered by her crafty neighbour, who, according to our own short-sighted view of ornithological economy, would have been apt to make free with them at the earliest call of hunger. The ringdove had settled there with her eyes open to her supposed danger, for the magpie was the first to get possession of the tree.

I had but a faint idea of the habits of the ringdove until I had offered it an undisturbed asylum in this "valley free." Its movements are remarkably periodical. In mild winters, or, more properly speaking, in winters of short continuance, it makes its first appearance on the island where my house stands early in February. This year it came, for the first time, on the second of the month, and cooed in full note. From this period it may be seen here every day till October, either in the sycamore trees, or in the ivy on the old ruined tower, or on the lawn, picking up the tender sprouts of grass. Provided you approach with "cautious step and slow," you may get within seven yards of different pairs of these birds; and when the window-sash is down, they will come within a few paces of the place where you are standing, and allow you to gaze at them for any length of time. After the first week in October, they take their final leave of my island for the winter, and never, by any chance, pay us even one single solitary visit till February sets in, though they may be seen every day in congregated numbers in other parts of the park, where they roost in the elm and fir trees. During the winter months they are exceedingly shy and timorous, seeking for safety in lofty flight the moment they see you approach. They become quite silent towards the last week in October, and their notes are reduced to half their number for some days before they cease to coo entirely. At this period they discontinue those graceful risings and sinkings in the air, in which they appear to so much advantage during the whole of the breeding season.

Thus we have a bird which, during the course of the year, at one time approaches the haunts of man with wonderful assurance, and at another shuns them with a timidity equally astonishing. I speak only of its diurnal movements; for, at the close of day, both in winter and in summer, when not molested, this bird will come near to our out-buildings, and seek a roosting-place in the trees which surround them. This peculiarity of the ringdove in approaching so near to our mansions during the day in the breeding season, and then losing all confidence in us, as soon as incubation ceases, is not a mere accidental trait of one or two particular birds, whose usual habits may have been changed, either by want of food, or by protection offered; but it is inherent in the whole species, when the bird is allowed by man to follow Nature's unerring mandates.

I know of no British bird which has the colour of its plumage so constant as is that of the ringdove. I have never yet seen it vary, and the white spot or segment of a circle on the back of its neck, from which it takes its name, is always of the same size.

Ringdoves are exceedingly numerous here during summer, and when winter sets in, many thousands come every evening to take up their quarters for the night. They retire early to roost, and never leave the trees till all the other birds are on the stir.

As yet all attempts to reclaim this pigeon have been of no avail. I should suppose that it is not in the power of man to make it breed within the walls of a dovecot. For my own part, I am not exactly aware that its reduction to domestication would be productive of much advantage to us. Let others offer it the same protection it enjoys with me, and there would always be an ample supply of ringdoves to fill their groves with softest murmurs, and furnish their tables with a delicious repast. Connoisseurs tell us that the flesh of the ringdove, in winter, has the flavour of moor-game. I have fed on pigeons in many countries, but cannot say that I ever found them vary in taste from the pigeon which inhabits our common dovecots. Much, perhaps, depends upon the cooking. The culinary art, no doubt, with other important sciences, has derived great benefit from the march of intellect. In London they will serve you up a ram cat for a Martlemas rabbit; and we are told that in Paris a pair of old hunting boots can be stewed down to a very excellent and wholesome soup.

> "Nil equidem durare diu sub imagine eadem
> Crediderim."

> "These cooks will suffer nothing to remain
> In pristine flavour, or its shape retain."

THE DOVECOT PIGEON.

> "Aspicis ut veniant ad candida tecta columbæ,
> Accipiat nullas sordida turris aves."—OVID, *Tris.*
>
> "See to the whitewash'd cot what doves have flown!
> While that unwhitewash'd not a bird will own."

BY this it appears that the old Romans paid considerable attention to the raising of pigeons. Our common dovecot pigeon is only a half-reclaimed bird, not being sufficiently domesticated to be deemed private property in the strictest sense of the word. Thus, I may raise any quantity of the pigeons, but if they should forsake my dovecot, and retire to that of my neighbour, I cannot claim them. However, in order that dovecot pigeons may not fall into the hands of those who contribute nothing to their support, the legislature has enacted a fine of forty shillings, to be paid by him who has been convicted of having shot a dovecot pigeon. This act, till of late years, was of great use to the farmer, for it enabled him to raise this useful bird in vast abundance: but now the times are changed. The owners of dovecots have to complain, not only of bargemen, who shoot their pigeons along the whole line of the canals whenever an opportunity offers, but also of a plundering set of land vagabonds, who attack the dovecots in the dead of the night, and sometimes actually rob them of their last remaining bird. The origin of this novel species of depredation can be clearly traced to the modern amusement, known by the name of a pigeon-shooting match. A purveyor is usually engaged by the members. He offers a tempting price to poachers and other loose characters, and they agree to supply him with any quantity of dovecot pigeons, to be ready for the day on which the cruel exhibition is to take place. Generally, under the covert of a dark night, these hired thieves go to the place where they have previously seen a ladder, and carry it off to the devoted dovecot, upon the outside of which they mount, and with great caution fix a net to the glover, or aperture, on the top of the building. After they have effected this, they descend from the roof, and immediately force the door to get at the pigeons. Should, however, their original survey of the dovecot, prior to their mounting on it, have shown them that the door is strong enough to resist their attempts to break it open, they take the precaution to leave a man on the roof, where he seizes the pigeons as soon as they become entangled in the net. In the meantime, his associates below tap sufficiently loud at the door of the dovecot to cause the pigeons to start from their roost and try to escape. Thus the hopes of the farmer are utterly destroyed, and a supply of birds is procured for the shooting matches in a manner not over and above creditable to civilised society. It remains with the members of the club to decide whether it be honourable or just in them to encourage these midnight depredators. They must be aware that all the pigeons which they buy are old ones, and that old ones are never offered for sale by the owners of dovecots. The dovecots in this neighbourhood have been robbed repeatedly, and it is well known that the pigeons which have been stolen from them have fallen at shooting matches near forty miles distant.

No farm-yard can be considered complete without a well-stocked dovecot, the contents of which make the owner a most ample return, and repay him abundantly for the depredations which the pigeons are wont to make upon his ripening corn. He commands a supply of delicious young birds for his table, and he has the tillage from the dovecot, which is of vast advantage to his barley land. Moreover, the pigeons render him an essential service by consuming millions of seeds which fall in the autumn, and which, if allowed to remain on the ground, would rise up the following year in all the rank exuberance of weed, and choke the wholesome plant. A dovecot ought to be well lighted, and it should be whitewashed once every year. The tillage which it produces may be removed early in November, and again at the end of February. The young of the dovecot pigeon, like all others of the columbine order, are reared in a nest lined by their own dung, which, if left in the hole after the birds are gone, is apt to harbour vermin. Wherefore cleanliness dictates its early removal. No dovecot can possibly thrive if rats have found an entrance into it. These cruel and audacious plunderers will destroy every young pigeon within their reach. Oust them you must, and preclude their return, be the cost ever so great; otherwise disappointment will most assuredly be your lot.

The barn owl and the starling are harmless unoffending visitors to the dovecot: they repair to it merely for shelter or for a breeding-place; so that I always like to see them enter mine. It is a lofty and a spacious building; and last season it furnished seventy-three dozens of young pigeons. The walls were made with flues, by the judicious use of which we had a very early supply for the table; but, through some neglect on the part of the attendant, a fire took place, which threatened destruction to the surrounding buildings. In consequence of this, the flues were no longer heated, and they have continued in disuse since that time. Though owls, and hawks, and crows, and magpies are allowed an unmolested range in the vicinity of this dovecot, still it is acknowledged to be one of the most productive in the county.

There is a peculiarity in the habits of the dovecot pigeon which ought not to pass unnoticed. Though this bird will often perch on trees in the day-time, it has never been known to roost on them during the night. Neither will it pass the night in the open air, except in cases of the greatest emergency. I have an aged elm here, of gigantic size, to which both the dovecot pigeon and the wild ring-pigeon will frequently resort. It is amusing to watch the peculiar habits of these two different species of birds. They seem to come to the tree solely for their own convenience, and not with any intention to enjoy each other's company; and they appear to be as devoid of mutual signs of courtesy as are our own countrymen when seated in a foreign diligence. I am positive that there will never be a union betwixt the dovecot pigeon and the ringdove. A long series of observations, which I have been enabled to make, tends to convince me more and more of the impossibility.

The dovecot pigeons, like the rest of the genus, are remarkable for retiring to their roost at an early hour, and for leaving it late in the morning: thus fulfilling only half of poor Richard's maxim of

> "Early to bed, and early to rise,
> Makes a man healthy, wealthy, and wise."

These pigeons never lay more than two eggs at one sitting. Indeed, I should be most surprised were it satisfactorily proved that any pigeon ever sits on three eggs.

Nothing can surpass the attachment of these birds to the cot of their choice. Provided you do not absolutely molest them by the repeated discharge of fire-arms, they can scarcely be driven from it. You may unroof their habitation; and though you leave it in that dismantled state for weeks together, still the pigeons will not forsake it. At their early hour of roosting, they will approach within three or four yards of the workmen, and then take shelter in the holes of the roofless walls, where they remain for the night.

Much might be written by the ornithologist on the intimacy which would exist betwixt man and the feathered tribes, if man would condescend to cultivate it. Were I "close pent up in the social chimney corner," on some dismal winter's evening, with an attentive "Eugenius" by my side, I would show him the cause of shyness which exists betwixt the birds and us; and, amongst other things, I would prove to him that no bird ever anticipates the return of man to the vicinity of its nest, by the supposed act of removing its "young to new quarters." The pretended discovery of this reasoning quality in birds may be just the thing to raise the writer in the estimation of the editor of the *American Quarterly;* but it won't go down here in England.

Our ancestors generally built their dovecots in an open field, apart from the farm-yard; fearing, probably, that the noise and bustle occasioned by the rustic votaries of good Mother Eleusina might interrupt the process of incubation, were the dovecots placed in the midst of the buildings dedicated to husbandry.

Birds very soon get accustomed to the sounds of civilised life, be they ever so loud, except those which proceed from the discharge of a gun; and even those, in some few cases of extreme hunger, will not deter a famished wild bird from approaching the place where nutriment can be found. How unconcernedly the daw sits on the lofty steeple, while the merry chimes are going! and with what confidence the rooks will attend their nests on trees in the heart of a town, even on the busy market-day! The report of fire-arms is terrible to birds; and indeed, it ought never to be heard in places in which you wish to encourage the presence of animated nature.

Where the discharge of fire-arms is strictly prohibited, you will find that the shyest species of birds will soon forget their wariness, and assume habits which persecution prevents them from putting in practice. Thus the cautious heron will take up its abode in the immediate vicinity of your mansion; the barn owl will hunt for mice under the blazing sun of noon, even in the very meadow where the haymakers are at work; and the wigeons will mix, in conscious security, with the geese, as they pluck the sweet herbage on your verdant lawn; where the hares may be seen all day long, now lying on their sides to enjoy the warmth of the sun, and now engaged in sportive chase, unbroken in upon by enemies, whose sole endeavour is to take their lives.

THE PHEASANT.

This splendid, well-known inhabitant of our woods and plains is generally supposed to have come from Asia, though the time of its arrival in this cold and cloudy climate seems to be quite unknown. A variety of this bird, sometimes spotted and sometimes milk-white, appears among the other pheasants, and breeds with them. I have never yet been able to perceive that it continues its white or varied plumage to the offspring. The plumage of the white or pied pheasant seems purely accidental, and is produced by a male and female of ordinary colours. The ring-neck pheasant, so common in the more northern parts of the kingdom, is never seen in this immediate neighbourhood.

By the laws of England, the pheasant is considered game; and the sportsman is under the necessity of taking out a licence from government, in order to qualify himself to shoot it. When we consider the habits of this bird, we are apt to doubt of the propriety of placing it under the denomination of *feræ naturâ;* and I am one of those who think that it would be a better plan to put it on the same footing with the barn-door fowl, by making it private property; that is, by considering it the property of the person in whose field or wood it may be found. The pheasant is a more than half-reclaimed bird. While the hare and the partridge wander in wildest freedom through the land, heedless of the fostering care of man, the bird in question will come to us, at all hours of the day, to be fed. It will even sometimes associate with the poultry on the farm; and, where it is not disturbed, it will roost in trees, close to our habitations.

Its produce with the barn-door fowl is unprolific, and seems to have nothing to recommend it to our notice on the score of brilliancy of plumage, or of fineness of shape.

The pheasant crows at all seasons on retiring to roost. It repeats the call often during the night, and again at early dawn; and frequently in the day-time, on the appearance of an enemy, or at the report of a gun, or during a thunderstorm. I am of opinion that it does not pair. The female lays from seven to eighteen eggs; but, in general, the nest contains about twelve.

Notwithstanding the proximity of the pheasant to the nature of the barn-door fowl, still it has that within it which baffles every attempt on our part to render its domestication complete. What I allude to is, a most singular innate timidity, which never fails to show itself on the sudden and abrupt appearance of an object. I spent some months in trying to overcome this timorous propensity in the pheasant; but I completely failed in the attempt. The young birds, which had been hatched under a domestic hen, soon became very tame, and would even receive food from the hand, when it was offered cautiously to them. They would fly up to the window, and would feed in company with the common poultry. But if anybody approached them unawares, off they went to the nearest cover with surprising velocity. They remained in it till all was quiet, and then returned with their usual confidence. Two of them lost their lives in the water, by the unexpected appearance of a pointer, while the barn-door fowls seemed scarcely to notice the presence of the intruder. The rest took finally to the woods at the commencement of the breeding season. This particular kind of timidity, which does not appear in our domestic fowls, seems to me to oppose the only, though at the same time an insurmountable, bar to our final triumph over the pheasant. After attentive observation, I can perceive nothing else in the habits of the bird, to serve as a clue by which we may be enabled to trace the cause of failure in the many attempts which have been made to invite it to breed in our yards, and retire to rest with the barn-door fowl and turkey.

Though a preserve of pheasants is an unpopular thing, still I am satisfied in my own mind that the bird cannot exist in this country without one; at the same time, I am aware that a preserve may be overdone. Thus, when pheasants are reserved for a day of slaughter under the appellation of a *battu*, the regular supply of the market is endangered, the diversion has the appearance of cruelty, and no good end seems to be answered. It exposes the preservers of pheasants in general to the animadversions of an angry press, which are greedily read, and long remembered, by those whose situation in life precludes them from joining in the supposed diversion. However ardently I may wish to protect the pheasant in an ornithological point of view,—I say ornithological, for its flesh I heed not,—still, I am fully aware that the danger to be incurred, and the odium to be borne, are mighty objections. We read that the ancients sacrificed a cock to Æsculapius: perhaps the day is at no great distance when it will be considered an indispensable act of prudence for the country gentleman to offer up his last hecatomb of pheasants at the shrine of public opinion.

The more we look into the habits of the pheasant, the more we must be persuaded that much greater attention ought to be paid to it than is generally paid to other kinds of game. The never-failing morning and evening notice which it gives of its place of retreat, together with its superior size, causes it to be soon detected and easily killed. The tax, too, which Government has put upon it, enhances its value as an indispensable delicacy at the tables of those who give good cheer. In fact, few are the autumnal and winter dinners of the wealthy where a roasted pheasant does not grace the second course. The fowling-piece of the nocturnal poacher is the most fatal weapon used for its destruction. The report of a gun or a clap of thunder, during the night, will often cause the pheasants to begin to crow, as I have already stated; and this greatly endangers their safety. When once they are frightened from their roost, they never perch again during the remainder of the night, but take refuge among the grass and underneath the hedges, where they fail an easy prey to the cat, the fox, and the stoat. A poacher armed with a gun finds a cloudy night fully as good for slaughter as one in which the moon shines; and if larch trees grow in the wood, to these he resorts, knowing, by experience, that the pheasant prefers this kind of tree to any other. The larch suits pheasants admirably, on account of its branches growing nearly at right angles from the stem. This renders the sitting position of the birds very easy. I consider the smoking of pheasants, while they are roosting in the tree, as a mere idle story. I myself ought to be a pretty good hand at poaching; still, I am obliged to confess that I have never been successful, in one single instance, in the many attempts I have made to bring down the pheasant from his roost by the application of a smoking apparatus. Indeed, when we reflect that the mouth of the bird is always shut during sleep, and that both it and the nostrils are buried in the dorsal feathers, we are at a loss to conceive how the smoke can enter them, and cause the bird to fall in stupefaction. If smoking were a successful method, depend upon it the poachers would never be such noodles as to use a gun; the report of which is sure to bring an attentive keeper to the scene of their night's diversion.

To the illegal possession of the pheasant alone may be traced the cause of all the sanguinary nocturnal conflicts between the poachers and those who are appointed to watch for its safety. The poacher is well aware that he cannot procure pheasants without the aid of a gun; and he knows, at the same time, that the report of that gun will betray him, and bring up the watchers, against whom he would have no chance, single-handed. Wherefore, in order that he may come off victorious, he musters an overwhelming force of tinkers, cobblers, masons, smiths, and labourers, armed with bludgeons, and perhaps here and there a rusty gun. Taking the precaution to get well primed with beer, off they go, fully bent on having everything their own way. The pheasants fall; the watchers come up; oaths and curses are poured out, and a desperate fray commences. Here are furnished work important for the nearest magistrate, profit to his clerk, expense to the county, and practice for Mr Ketch. Let it be also observed, that the unlawful capture of the hare and the partridge (which are really *feræ naturâ*) does not produce similar work of mischief. These are taken with nets and snares. The fewer poachers employed, the more certain is their success. A number of men would only do harm, and mar the plan of capture. So silently is this mode of poaching carried on, that the owner of the soil is not aware of the loss he is about to sustain in the plunder of his game. When his hares and partridges are actually on their way to the dealer's shop, he, "good easy man," may fancy that they are merely on a visit to his neighbour's manor, or that the fox and the polecat may have made free with them. Not so with regard to the capture of the pheasant. The mansion is sometimes beset; guns are fired close to the windows; females are frightened into hysterics; and, if the owner sallies forth to repel the marauders, his reception is often the most untoward and disagreeable that can well be imagined.

Having now treated of the pheasant, and the mode which is adopted for its destruction, I will draw upon the reader's time a little longer, by proposing a plan for its propagation and protection. Pheasants would certainly be delightful ornaments to the lawn of the country gentleman, were it not for the annoying idea that any night, from November to May, he runs the risk of getting a broken head, if he ventures out to disturb the sport of those who have assembled to destroy them. There must be something radically wrong in the game laws. How or when those laws are to be amended, is an affair of the legislature. The ornithologist can do no more than point out the grievance which they inflict upon society, and hope that there will soon be a change in them for the better. But to the point. Food and a quiet retreat are the two best offers that man can make to the feathered race, to induce them to take up their abode on his domain; and they are absolutely necessary to the successful propagation of the pheasant. This bird has a capacious stomach, and requires much nutriment; while its timidity soon causes it to abandon those places which are disturbed. It is fond of acorns, beech-mast, the berries of the hawthorn, the seeds of the wild rose, and the tubers of the Jerusalem artichoke. As long as these, and the corn dropped in the harvest, can be procured, the pheasant will do very well. In the spring it finds abundance of nourishment in the sprouting leaves of young clover; but, from the commencement of the new year till the vernal period, their wild food affords a very scanty supply; and the bird will be exposed to all the evils of the Vagrant Act, unless you can contrive to keep it at home by an artificial supply of food. Boiled potatoes (which the pheasant prefers much to those in the raw state) and beans are, perhaps, the two most nourishing things that can be offered in the depth of winter. Beans, in the end, are cheaper than all the smaller kinds of grain, because the little birds, which usually swarm at the place where pheasants are fed, cannot swallow them; and if you conceal the beans under yew or holly bushes, or under the lower branches of the spruce fir tree, they will be out of the way of the rooks and ringdoves. About two roods of the thousand-headed cabbage are a most valuable acquisition to the pheasant preserve. You sow a few ounces of seed in April, and transplant the young plants, two feet asunder, in the month of June. By the time that the harvest is all in, these cabbages will afford a most excellent aliment to the pheasants, and are particularly serviceable when the ground is deeply covered with snow. I often think that pheasants are unintentionally destroyed by farmers during the autumnal seed-time. They have a custom of steeping the wheat in arsenic water. This must be injurious to birds which pick up the corn remaining on the surface of the mould. I sometimes find pheasants at this period dead in the plantations, and now and then take them up weak and languid, and quite unable to fly. I will mention here a little robbery by the pheasants, which has entirely deprived me of a gratification I used formerly to experience in an evening's saunter down the vale. They have completely exterminated the grasshoppers. For these last fourteen years I have not once heard the voice of this merry summer charmer in the park. In order to render useless all attempts of the nocturnal poacher to destroy the pheasants, it is absolutely necessary that a place of security should be formed. I know of no position more appropriate than a piece of level ground, at the bottom of a hill, bordered by a gentle stream. About three acres of this, sowed with whins, and surrounded with a holly fence, to keep the cattle out, would be the very thing. In the centre of it, for the space of one acre, there ought to be planted spruce fir trees, about fourteen feet asunder. Next to the larch, this species of tree is generally preferred by the pheasants for their roosting-place; and it is quite impossible that the poachers can shoot them in these trees. Moreover, magpies and jays will always resort to them at nightfall; and they never fail to give the alarm on the first appearance of an enemy. Many a time has the magpie been of essential service to me in a night excursion after poachers. If there be no park wall, an eye ought to be kept from time to time on the neighbouring hedges. Poachers are apt to set horse-hair snares in them; and these villainous nooses give the pheasants apoplexy. Six or seven dozen of wooden pheasants, nailed on the branches of trees in the surrounding woods, cause unutterable vexation and loss of ammunition to these amateurs of nocturnal plunder. Small clumps of hollies, and yew trees with holly hedges round them, are of infinite service when planted at intervals of 150 yards. To these the pheasants fly, on the sudden approach of danger during the day, and skulk there till the alarm is over. When incubation is going on, the diurnal poachers make great havoc among the pheasants' eggs. They sell sittings of them for five shillings (and sometimes for ten, if the risk in procuring them is great), to gentlemen in towns, who place them under bantam hens. If to these arrangements for protecting pheasants there could be added a park wall from nine to ten feet high, and including about 250 acres, consisting of wood, meadow, pasture, and arable land, the naturalist might put all enemies at defiance, and revel in the enchanting scene afforded by the different evolutions of single pairs, and congregated groups of animated nature. Unmolested by packs of hounds, unbroken in upon by idle boys, and unannoyed by stray cattle, and by those going in search of them, his wild fowl would never desert the pool till the day of their migration arrived; and his pheasants (except for the purpose of incubation, and then in no great quantities) would seldom rove beyond the protected enclosure. The teal and widgeons stay with me till the last week in April, long after the pochards and the main flocks of malards have winged their flight to northern polar regions; and a white male pheasant has taken up his abode here for seven years, without having been once seen to wander half a mile from the house.

Birds thus protected have very different habits from those which are exposed to the caprice and persecutions of man. When the ornithologist pays attention to them in their safe retreat, where they can follow without molestation the impulse of that instinct which has been so bountifully given to them, he will have great cause to suspect that there is many an error and many a false conclusion in the works which we have at present on the habits and economy of the feathered race. These errors are, no doubt, quite unintentional on the part of the writers on British ornithology, and can only be corrected by great care, and a frequent personal attendance at those places where birds are encouraged and befriended.

THE KINGFISHER.

> "Perque dies placidos hiberno tempore septem,
> Incubat Halycone pendentibus æquore nidis."
>
> —OVID, *Met.*, lib. xi.

WHEN the delicious season of spring sets in, I often get up into the topmost branches of a wide-spreading oak, and there taking the "Metamorphoses" out of my pocket, I read the sorrows of poor Halcyone. A brook runs close by the tree, and on its bank I have fixed a stump for a resting-place to the kingfisher. On it this pretty bird will tarry for a while in passing up and down, and then plunge into the stream and bring out a fish. My elevated station on the oak gives me a fine opportunity of admiring its back, as it darts along beneath me. When the sunbeam is upon it, no words can do justice to the beauty of the glowing azure which attracts the eye.

Modern ornithologists have thought fit to remove the kingfisher from the land birds, and assign it a place among the water-fowl. To me the change appears a bad one; and I could wish to see it brought back again to the original situation in which our ancestors had placed it; for there seems to be nothing in its external formation which can warrant this arbitrary transposition. The plumage of the kingfisher is precisely that of the land bird, and, of course, some parts of the skin are bare of feathers; while the whole body is deprived of that thick coat of down so remarkable in those birds which are classed under the denomination of water-fowl. Its feet are not webbed; its breast is formed like that of land birds; and its legs are ill calculated to enable it to walk into the water. Thus we see that it can neither swim with the duck, nor dive with the merganser, nor wade with the heron. Its act of immersion in the water is quite momentary, and bears no similarity to the immersion of those water-fowl which can pursue their prey under the surface, and persevere for a certain length of time, till they lay hold of it. Still the mode of taking its food is similar to that of the gulls, which first see the fish, and then plunge into the deep to obtain it; but this bird differs from the gull in every other habit.

You observe the kingfisher sitting on a rock, or upon the branch of a tree, or hovering over the water; and the moment a fish is seen in the stream below, it drops down upon it like a falling stone. If it miss the mark, which is rarely the case, it comes up again immediately, without further exertion in the water, and then flies off, or occasionally regains its former station in order to make another plunge. As this process of immersion is of very short duration, the bird is enabled to escape with impunity from the deep, in which, or on which, were it to remain for a very little time, death would inevitably be its fate.

These undeniable circumstances have induced me to wish for the restoration of the kingfisher to its former situation amongst the land birds; for I feel reluctant to admit that the single act of procuring its food from the water should be thought a sufficient reason for removing it from its old associates, and placing it amongst strangers, with whom it can neither dive nor swim, nor even float with any chance of safety. If the kingfisher is to be considered a water bird merely because it draws its sustenance from the water, then our modern innovators ought to consider the osprey in the same light: and even the barn owl might give them a hint that she feels inclined to seek a new acquaintance; for I myself have seen her plunge into the water, bring out a fish, and convey it to her nest. Indeed, the swallow, with a still better grace, might ask permission to form a new division, distant both from land and water birds, and call it ethereal, because it procures the whole of its sustenance from insects in the circumambient air.

When I remarked above that the feet of the kingfisher are not webbed, I did not wish it to be understood, that I consider the webbed foot essentially necessary to the act of swimming. The water-hen is an expert swimmer, without having the feet webbed; but then its form and plumage, so different from the form and plumage of land birds, enable it to move with swiftness and with safety, either on the water or under its surface.

There is not much difference in appearance betwixt the adult male and female kingfisher; and their young have the fine azure feathers on the back before they leave the nest. This early metallic brilliancy of plumage seems only to be found in the birds of the pie tribe. It obtains in the magpie, the jay, and, most probably, in all the rollers. Wherever it is observed in the young birds, we may be certain that the adult male and female will be nearly alike in colour. We are in great ignorance, and I fear we shall long remain so, concerning colour in the plumage of birds. The adult male and female kingfisher have a very splendid display of fine tints; so have the adult male and female starling; but though the young of the kingfisher have their bright colours in the first plumage, we find the first plumage of the young starlings pale and dull. I have had an eye to this circumstance for above thirty years, and still I am sorely in want of the schoolmaster.

The old story, that the kingfisher hovers over the water, in order to attract the fish by the brightness of its plumage, is an idle surmise. In the first place, fishes cannot see an object directly above them; and, secondly, if they could see it, there would be nothing brilliant for them to look at in the kingfisher, as all the splendid feathers are upon its upper parts.

A brook runs through this park, and alongside of it grows a small oak, part of the roots of which are bare, the earth and gravel having gradually left them, and fallen into the stream below. In the bank where these roots are seen, about six feet from the surface of the water, is a hole in which a pair of kingfishers have had their nest, time out of mind. They have afforded me the best possible opportunities of examining their economy; and, from what I have seen, I am perfectly satisfied that this pair of birds, at least, lives entirely upon fish; I have never been able to detect these kingfishers feeding either upon snails, or worms, or insects. They bring up a fish from the water, crosswise in their bills, and then chuck it down their throats head-foremost. I do not think that they ever eat a fish piecemeal: and these birds, with me, never utter their ordinary shrill piping succession of notes, except when they are on the wing.

I love to take my stand behind a large tree, and watch the kingfisher as he hovers over the water, and at last plunges into it, with a velocity like that of an arrow from a bow. How we are lost in astonishment when we reflect that instinct forces this little bird to seek its sustenance underneath the water; and that it can emerge from it in perfect safety, though it possesses none of the faculties (save that of plunging) which have been so liberally granted to most other birds which frequent the deep! I sometimes fancy that it is all over with it, when I see it plunge into a pond, which I know to be well stocked with ravenous pike: still it invariably returns uninjured, and prepares to take another dip.

There are people who imagine that the brilliancy of the plumage of birds has some connection with a tropical sun. Here, however, in our own native bird, we have an instance that the glowing sun of the tropics is not required to produce a splendid plumage. The hottest parts of Asia and of Africa do not present us with an azure more rich and lovely than that which adorns the back of this charming little bird; while throughout the whole of America, from Hudson's Bay to Tierra del Fuego, there has not been discovered a kingfisher with colours half so rich or beautiful. Asia, Africa, and America offer to the naturalist a vast abundance of different species of the kingfisher. Europe presents only one, but that one is like a gem of the finest lustre.

I feel sorry to add that our kingfisher is becoming scarcer every year in this part of Yorkshire. The proprietors of museums are always anxious to add it to their collections, and offer a tempting price for it. On the canals, too, it undergoes a continual persecution: not a waterman steers his boat along them but who has his gun ready to procure the kingfisher. If I may judge from the disappearance of the kite, the raven, and the buzzard from this part of the country, I should say that the day is at no great distance when the kingfisher will be seen no more in this neighbourhood, where once it was so plentiful, and its appearance so grateful to every lover of animated nature,—where, in fine, its singular mode of procuring food, contrasted with its anatomy, causes astonishment in the beholder, and cannot fail to convince him that modern ornithologists were ignorant of the true nature of the kingfisher when they rashly removed it from its old associates, and assigned it a place amongst strangers, whose formation differs so widely from its own.

THE RUMPLESS FOWL.

Pauca meo gallo.—VIRGIL.

SOME time ago I introduced this bird to the readers of Mr Loudon's *Magazine*, in order to show them that the feathers of birds are just as brilliant and in as good condition on the body of one which has no oil-gland, as on the body of one which is furnished with it. This being really the case, I drew the conclusion, that birds are not in the habit of anointing their plumage with the contents of their oil-gland.

The history of the rumpless fowl seems to be involved in much obscurity. Buffon tells us that most of the hens and cocks of Virginia have no rump; and the inhabitants, he adds, affirm that, when these birds are imported, they soon lose the rump. Surely the inhabitants must mean that the progeny of the imported birds lose the rump. Monsieur Fournier assured the count, that, when the rumpless fowl couples with the ordinary kind, a half-rumped sort is produced, with six feathers in the tail instead of twelve. Buffon tells us that this bird is sometimes called the Persian fowl. Perhaps it may be more common in that eastern country than in France; still, after all, I find upon investigation that it is nothing more nor less than a variety of the common barn-door fowl, and that it can be produced by a male and female, both of which are furnished with a rump, and, of course, with a tail.

Two years ago, in the village of Walton, a common barn-door hen with a rump laid eighteen eggs under a hedge which separates a little meadow from the highway. There was not a rumpless male fowl in all the village, or in the adjacent country. The mowers were cutting the grass just as the old hen was hatching her young. She was killed by a stroke of the scythe, and two chickens were all that could be saved from the wreck. One of the mowers conveyed the two young birds in his hat to the villager who had owned the hen, and whose house was hard by. She brought them up at the fireside. They were male and female. The male was rumpless, and without a tail, whilst the female had a rump, and a tail of ordinary size.

When the former had become a full-grown fowl, I introduced to it a rumpless hen, by way of companion. She laid fourteen eggs, and sat upon them with great perseverence, but every egg proved addle. After this, she produced a dozen more in the course of the summer and she sat upon them, but with no better success. I then substituted a male fowl with a tail in lieu of her rumpless paramour, and they soon became a loving couple. She laid well the summer following, and sat twice; but her repeated efforts to produce a family were of no avail. During her last sitting, a Malay hen, of prying habits, took the opportunity of her momentary absence from the nest, and laid an egg in it. This produced a chicken, which the rumpless stepmother reared with maternal care.

It would appear, from these experiments, that the rumpless fowl is not prolific. But Cervantes tells us that one swallow does not make summer—"Una golondrina, no hace verano." Wherefore further investigation is absolutely necessary before the affair in question can be set at rest. However, the testimony which follows tends to prove that the rumpless fowl is fully capable of producing its race.

There lives, in the village of Walton, an old woman notorious for rearing poultry. Her name is Nanny Ackroyd. Some few years ago I had seen a pair of rumpless fowls feeding at her door. I called on Nanny the other day, and I asked her where she had procured the fowls, and if they had ever had a brood. She told me that she had got them from the Isle of Wight, and that they had produced seven rumpless chickens, which she sold at the Market Cross, in Wakefield, but that she could not get the full price for them, as her customers did not fancy them on account of their want of tail. On asking her what had become of the parent fowls, she said that they both suddenly disappeared, a few weeks after she had sold the young ones, at the Market Cross, in Wakefield. Two or three unknown mendicants had been lurking in the outskirts of the village, and she was sure the vagabonds had nipped up her poor fowls.

My own rumpless fowl, mentioned above, came to an untimely end. He was at the keeper's house; and as the keeper had got a tame fox, I foresaw that some day or other my bird would fall into its clutches. To prevent the impending catastrophe, I sent up one morning to the keeper, and desired that the fowl might be brought down to the hall in the evening. A giant Malay fowl espied it as soon as it had left its roost the next day; and, indignant at the appearance of such a rival stranger on the island, he drove it headlong into the water, where it perished before assistance could be procured. But though its vital spark has fled for ever, still its outer form will remain here, probably for ages yet to come. I dissected it, and then I restored its form and features in a manner that may cause it to be taken for a living bird. This fowl now stands alongside of a common barn-door hen, which had assumed the plumage of a male, and whose fate has already been recounted in Mr Loudon's *Magazine of Natural History*. She has been furnished by nature with an oil-gland and a handsome tail; he has been deprived by nature of both these appendages. Still, his feathers are as glossy and in as high condition as those of his companion. I consider this fact as conclusive evidence against the received opinion, that birds make use of the contents of the oil-gland in order to lubricate their feathers. If they really did make use of it, the state of the plumage on one of these birds ought to bear marks of its application.

Before I can be convinced that birds lubricate their feathers, I must require him who inspects these two fowls (with a magnifying glass if he chooses), to point out to me a difference in the plumage of the bird with an oil-gland from that of the bird without one. When he shall have done this, I will yield, and willingly confess, that a close attention to this subject, for a very long time, has availed me nothing, and has only been the means of leading me into an evident error.

THE HERON.

Of all the large wild birds which formerly were so common in this part of Yorkshire, the heron alone can now be seen. The kite, the buzzard, and the raven have been exterminated long ago by our merciless gamekeepers. Ignorant of the real habits of birds, and even bent on slaughter, these men exercise their baneful calling with a severity almost past belief. No sooner have they received from government their shooting licence, than out they go with the gun, and, under one pretext or other, they kill almost every bird which comes in their way. Our game laws are at the bottom of all this mischief.

> —— "Illis, non sævior ulla
> Pestis, et ira Deûm, Stygiis sese extulit undis."
>
> "Than these, a greater pest our statesmen never
> Sent from their old burnt house near London river."

Kites were frequent here in the days of my father; but I myself have never seen one near the place. In 1813, I had my last sight of the buzzard. It used to repair to the storm-blasted top of an ancient oak, which grows near the water's edge; and many and many a time again have I gone that way, on purpose to get a view of it. In the spring of that year it went away to return no more; and, about the same period, our last raven was shot on its nest by a neighbouring gentleman.

In vain I now look for any of these interesting birds in our surrounding woods. They have been declared great destroyers of game; they have, in consequence, suffered persecution; and, like the family of poor Charlie Stuart (God rest his soul!), they no longer appear on their native land, in this district, where once they graced our rural scenery.

The heron, however, notwithstanding this hostile feeling, has managed to survive its less fortunate neighbours. Always on the look-out, it sees in time the threatened danger, and generally contrives to avoid it; for persecution has rendered it fully as shy and wary as the pie itself. Formerly, in this country, the heron was a protected bird, in order that it might afford pastime to the great; but, now-a-days (as little or nothing remains of falconry, except a title, which introduces the finger and thumb of the bearer into the public purse), the heron is abandoned to its fate, and the fish-pond owners may waylay it with impunity, whenever an opportunity offers.

I attribute the bad character which the heron has with us for destroying fish, more to erroneous ideas than to any well-authenticated proofs that it commits extensive depredations on our store-ponds. Under this impression, which certainly has not hitherto been to my disadvantage, I encourage this poor persecuted wader to come and take shelter here; and I am glad to see it build its nests in the trees which overhang the water, though carp, and tench, and many other sorts of fish are there in abundance. Close attention to its habits has convinced me that I have not done wrongly. Let us bear in mind that the heron can neither swim nor dive; wherefore the range of its depredations on the finny tribe must necessarily be very circumscribed. In the shallow water only can it surprise the fish; and even there, when we see it standing motionless, and suppose it to be intent on striking some delicious perch or passing tench, it is just as likely that it has waded into the pond to have a better opportunity of transfixing a water-rat lurking at the mouth of its hole, or of gobbling down some unfortunate frog which had taken refuge on the rush-grown margin of the pool. The water-rat may appear a large morsel to be swallowed whole; but so great are the expansive powers of the heron's throat, that it can gulp down one of these animals without much apparent difficulty. As the ordinary food of this bird consists of reptiles, quadrupeds, and fish, and as the herons can only catch the fish when they come into shallow water, I think we may fairly consider this wader as not very injurious to our property; especially when we reflect for a moment on the prodigious fecundity of fish. Take the roach for example. It swarms here in multitudes sufficient to satisfy the cravings of every heron and every cormorant in Europe.

Should the lords of the adjacent fishponds ever read the contents of this paper, I would fain hope that their animosity against the heron will be diminished, and that they will order their gamekeepers to spare in future a bird which everybody loves to see. Indeed, what can be more interesting to the ornithologist than to have it in his power to watch a dozen of these birds standing motionless on one leg, for hours together, upon some leafless branch of a tree; or to see them flapping their way over his head, on wings much more arched than those of any other bird that cleaves the liquid void.

The heron is gregarious during the breeding season; though sometimes a solitary nest may be found miles away from the place of general rendezvous. At other times of the year, the society seems to be dissolved; and the bird is seldom seen in this part of the country in parties of more than ten or twelve together. The nest appears like that of the rook, only often much larger; and it may be found on the willow, the oak, the fir, and the sycamore, and probably on many other kinds of trees, when they are in a place which affords security, and invites the heron to incubation. By the time that the young are ready to fly, the outside of the nest, and part of the tree which bears it, appear to the observer below as though they had been completely whitewashed; but the rains of winter cleanse the nest anew, and restore the branches to their former colour.

There is an old and vulgar notion, still current here, that, when the heron is sitting on her eggs, her legs appear hanging down on the outside of the nest. Probably the length of the heron's legs has given rise to this absurdity. A very slight inspection of the formation of the bird would suffice to convince the observer of his error. The thighs of all known birds are of a length exactly proportioned to that of the legs; wherefore, when a bird wishes to place itself in a sitting position, the bending of the knee causes the leg to recede sufficiently towards the tail to allow the feet to come to the centre of the body. This being the case, the heron places its legs in the nest with as much facility and ease as all other birds place theirs. Indeed, it cannot possibly perform its incubation with its legs outside of the nest; and the admirable provision of nature, in always giving to birds a due proportional length in their legs and thighs, saves the heron from the necessity of attempting to place itself in such an unsightly posture. In fact, the formation of the parts would not admit of it; and were a bird, by any chance, to put itself in a position by which the legs would appear on the outside of the nest, we may rest assured that both great pain and great inconvenience would ensue, and soon force it to resume the common process of incubation. The thighs, by being stretched asunder, would be thrown out of their ordinary bearings; and the feathers, by coming in contact with the outer materials of which the nest is formed, would be forced into a direction quite opposite to that which they have received from the hand of nature. Hence we may safely conclude that neither the herons, nor any other birds of the creation, ever perform their incubation with their legs on the outside of the nest.

In the day-time this bird seldom exhibits any very extraordinary activity. Although it will fly from place to place at intervals, still it seems to pass the greater part of the time betwixt sunrise and sunset quietly on the bank of a stream, or on the branch of a tree, often with one leg drawn up under the body in a most picturesque manner. But, as soon as the shades of night set in, the heron becomes as anxious and impatient as a London alderman half an hour before the Lord Mayor's festive dinner. It walks up and down the bank, or moves from branch to branch with extraordinary activity, every now and then stretching out its wings, and giving us to understand, by various gesticulations, that it is about to commence its nocturnal peregrinations in quest of food. One loud and harsh cry, often repeated, now informs you that the heron is on wing, wending its way to some distant river, swamp, or creek. I suspect that this cry is never uttered but when the bird is flying.

Formerly we had a range of fishponds here, one above the other, covering a space of about three acres of ground. Close by them ran a brook, from which the water-rats made regular passages through the intervening bank into the ponds. These vermin were engaged in never-ceasing mischief. No sooner was one hole repaired than another was made; so that we had the mortification to see the ponds generally eight or ten inches below water-mark. This encouraged the growth of weeds to a most incommodious extent, which at last put an end to all pleasure in fishing. Finding that the "green mantle from the standing pool" was neither useful nor pleasant, I ordered the ponds to be drained, and a plantation to be made in the space of ground which they had occupied. Had I known as much then as I know now of the valuable services of the heron, and had there been a good heronry near the place, I should not have made the change. The draining of the ponds did not seem to lessen the number of rats in the brook: but soon after the herons had settled here to breed, the rats became extremely scarce; and now I rarely see one in the place, where formerly I could observe numbers sitting on the stones at the mouth of their holes, as soon as the sun had gone down below the horizon. I often watch the herons on the banks of some other store-ponds with feelings of delight; and nothing would grieve me more than to see the lives of these valuable and ornamental birds sacrificed to the whims and caprice of man.

I know, and freely avow, that the herons will catch fish (especially eels), whenever those fish frequent the shallow water; still these birds make ample amends for their little depredations, by preventing the increase of rats and frogs. Little, indeed, must be those depredations: for fishermen are allowed to come hither, during the summer, in unrestricted numbers, and the herons have their nests in the trees which hang over the water; still there is a most plentiful supply of fish.

Up to the year 1826, the heron was a wandering, unprotected bird in this part of Yorkshire. Five or six nests were seen on a willowed island in the lake at Nostell Priory, and a solitary pair tried to rear their young in a neighbouring wood at Wooley Park. And these were all in the district. But idle boys and plundering vagabonds have prevented their increase; so that, at the present time, one nest, or two at furthest, are all that remain at Nostell Priory. There are a few herons at Scarthingwell.

I always hoped that when I got my park wall well finished, I should be able to afford these interesting birds an asylum at Walton Hall. My hopes have been realised. The whole of the park wall was complete in the summer of the year 1826, and, in the following spring, I counted six heron's nests in the enclosure. The old birds had chosen some Scotch firs, which bordered the water on the sloping ground, for their incubation, and in course of time they made a choice of oaks and sycamores bordering on each side of the water, for a similar purpose.

The new colony of these fine birds throve until an unfortunate intrusion of the woodfeller had well-nigh robbed me of it for ever. He thinned out a few trees in the winter, and in the following spring, all the herons abandoned the nests of preceding years, and took up their abode in an oak wood, but still within the enclosure of the park wall. Here they remain, the colony consisting this year of thirty-six nests. Considering how secure and sheltered they are, the number of nests ought to be much larger; but in freezing weather the birds are apt to frequent the neighbouring brooks, and there they are shot down by heartless gunmen and gamekeepers, who try their utmost to exterminate from our Yorkshire Fauna this last large bird,—so pleasing to the sight, and so ornamental to the scenery, whether the bird stands motionless on one leg for hours together, upon some giant oak of the grove, or wends its way through ether when night sets in, towards the narrow streams of rivers, where it is sure to make a hearty meal on the myriads of young eels to be found there.

Since my former observations on the heron were published, one new fact has come within my notice. The sheet of water, twenty-four acres in extent, which flows round my house, swarms with multitudes of bream, many of which are from two to three pounds in weight. About the middle of June, when the day is hot and sultry, you may see shoals of bream, of all sizes, as far as the eye can extend, just on the surface of the water, as though they had risen there for coolness, verifying the old remark :—

> "The sun's perpendicular heat
> Had reach'd to the depths of the sea:
> The fishes, beginning to sweat,
> Cried, Damn it, how hot we shall be!"

Once, when things were in this state, it was amusing to see from twenty to thirty herons floating to and fro through the air in the vain expectation of getting a meal by a process by which nature never intended they should procure it. They hovered over the shoal of bream for some hours, attempting, whilst on the wing, to strike the fish. But all their efforts to seize their prey were utterly unsuccessful. Their moving bodies warned the fish below; and whenever the birds descended to the surface of the water, the bream had retired from the danger; so that not a single fish was captured by the herons. Had the birds stood motionless on the bank, patience would have secured them a dinner; but the attempt to gain fish by pouncing on it from above only tended to show them, that the old beaten way in which to get a livelihood, nine times out of ten, proves the most certain and the most profitable both for man and beast.

My father was a great sportsman; and he followed up his game with an assiduity rarely witnessed in these degenerate times of long lying in bed, in lieu of being in the field. In the course of his ranges, he often had adventures worthy of record. But a wag, who always kept his name concealed, once amused the public, at my father's expense, with a story beating anything ever yet read in the annals of ornithological absurdity.

It was gravely reported that my father baited a hook attached to a long line in one of his stew ponds. An eel swallowed the bait, and whilst the eel was floundering in the water, a heron waded in and swallowed the eel. The heron being of a lax habit of body, the eel glided swiftly downwards from the stomach, and came into the world again through the heron's inferior aperture. Another and another heron played the same game, till at last no less than twelve herons were found there, all strung together on the same line, with the eel still fast to the hook in its native element, in lieu of remaining to be dissolved by the gastric juice of the heron. The report added that my father carried all the twelve herons home in triumph, and allowed them all to rot on the line, in order that every one might inspect an exhibition so interesting to natural history. This story was current, and really believed, when I was a little boy; and nobody enjoyed the joke more than my father himself, for when he told it, I have seen the moisture ooze out at the corners of his eyes, whilst his whole frame was convulsed with laughter.

Herons.—When the weather is calm and the water warm, here, at Walton Hall, the herons will alight on the deep water, and swim just like water-hens. This repeatedly took place for many days in the month of June of 1846. I saw the herons, after they had alighted on the deep water, strike at fish, but I could not perceive that they succeeded in capturing any.

THE MALLARD.

This bird yields to none of our wild water-fowl in loveliness of plumage, while it far surpasses most of them in the excellent flavour of its flesh. Having been completely subjugated by man, it can now be obtained either in its enlarged dimensions, acquired by superabundance of food picked up at the barn-door of its owner, or in its original small and compact form, on which a precarious subsistence in the field of freedom has hitherto worked no visible change.

There cannot be a doubt that the wild duck and the domestic duck have had one and the same origin. They are still intimate, for they breed together and flock together, and are both subject to the double annual moulting: of which more anon. The domesticated duck only loses its inclination for flying when it is bred and reared far from any large sheet of water; but where an extent of water is at hand, this bird will be observed to assume more brisk and active habits. It will indulge in long and lofty flights, and frequently take off with the congregated wild fowl in their nocturnal excursions.

I have the finest possible opportunity of looking into the habits of the mallard at any hour of the day, from the rising to the setting sun; for here this bird, and large flocks of its congeners, are perpetual visitors during the winter months. They fear no danger; and they seem to know that in this populous neighbourhood there is one retreat left to which they can retire, and in which they can find a shelter from the persecutions which are poured down so thick upon them in other places by man, their ever-watchful and insatiate pursuer.

Some six years ago, I put a number of wild ducks' eggs to be hatched by a domestic duck. The produce of these eggs having intermixed with the common barn-door breed of ducks, there has been produced by this union such an endless variety of colouring, that it is now impossible to trace the identical origin of the birds with any degree of certainty. Half-wild, half-tame, they will come to the windows to be fed; but still they have a wariness about them quite remarkable, and they will often startle and take wing at very trivial causes of alarm. In this group the naturalist may see the milk-white duck, and the duck in the real wild plumage, and others of every intermediate colour, now sporting and diving before them, now retiring to the stranger flocks at a distance, and now rising with them in the air at the close of day, to pursue in congregated numbers their journey through the heavens to those favourite places which afford them a regular supply of food.

In 1827, two males and three females made their appearance here, and took up their permanent quarters with the domestic ducks. They resembled the original wild breed in everything except in size. You could barely perceive that they were a trifle larger, and that was all. Hence I conclude that there must have been a shade of the reclaimed duck in their parentage. Though shy at first, in time they became surprisingly tame. One of the ducks singled out the cook as an object worthy of its attention, and would steal into the kitchen whenever an opportunity offered. The number is now reduced to one, the other four having disappeared at intervals. Fearing that this last remaining bird might give me "the slip for ever," I have taken the precaution to pinion him. The curtailing of his flight will probably be the means of prolonging his existence; for I always conjectured that his companions had been surprised and killed in their aberrations down the neighbouring brooks, where protection was not extended to them.

The wild ducks which frequent this place may be observed to catch insects on the water in the day-time; but they do not in general rove on land in quest of food, though once or twice, in moist and heavy weather, I have seen them waddle through the pasture; but I marked the fact down as one of rare occurrence. When undisturbed, they are seen to pass much of their time asleep on the ground. At intervals they will take to the water; and while some float on it, with the head reclined on the shoulder, others will sport and dive into the deep, and then return to land, and there arrange and preen their feathers, though not with oil from the gland on the rump, as is generally supposed. At the close of day they become exceedingly vociferous, the voice of the female being much louder and more frequent than that of the male; a circumstance too notorious in the human species. After this uproar of tongues has continued for a certain time, they rise on rapid wing in detached flocks, and, to a bird, they go away for the night. At early dawn they return in companies, consisting of fifteen or twenty birds, and stay here to pass the day in peace and quiet. When the water is frozen over, they sometimes huddle together on the ice, and at other times collect in one large flock in the adjacent pasture. Every now and then a peregrine falcon makes his appearance, and perches on a neighbouring sycamore tree. We know of his approach by the singular agitation which takes place amongst the ducks; they shake their wings with a tremulous noise, and get into a compact group. After this, they all rise in the air; and then you may see the falcon dash at an outside duck with an almost inconceivable velocity.

> "Ocior cervis, et agente nimbos
> Ocior Euro."

One morning he was observed to pursue a teal, which only just escaped destruction by alighting on a pond, within a few yards of the place where some labourers were at work.

I should think that the old birds remain in pairs through the entire year; and that the young ones, which had been hatched in the preceding spring, choose their mates long before they depart for the arctic regions in the following year. I have a favourite hollow oak tree on a steep hill, into which I can retire to watch the movements of the pretty visitors. From this I can often see a male and female on the water beneath me, nodding and bowing to each other with as much ceremony as though they were swimming a minuet, if I may use the expression. Hence, I conclude that there is mutual love in the exhibition, and that a union is formed.

When these large flocks of wild fowl take their departure in spring for the distant regions of the north, about a dozen pairs of mallards remain here to breed. Sometimes you may find a solitary nest of these birds near the water's edge, or a few yards from it, on a sloping bank thickly clothed with underwood; but, in general, they seem to prefer the recesses of a distant wood, for the purposes of their incubation; though we have had an instance of one building its nest in a tree, and of another which hatched its young on an old ruin. Last year, a domesticated wild duck had a brood of ten young ones in the month of May; and on the 27th day of October, the same bird brought out a second brood of eleven. In an evil hour, they strayed too far from the water. A tame raven met them on their travels, and killed every bird.

At the close of the breeding season, the drake undergoes a very remarkable change of plumage. On viewing it, all speculation on the part of the ornithologist is utterly confounded, for there is not the smallest clue afforded him by which he may be enabled to trace out the cause of the strange phenomenon. To Him alone who has ordered the ostrich to remain on the earth, and allowed the bat to range through the ethereal vault of heaven, is it known why the drake, for a very short period of the year, should be so completely clothed in the raiment of the female, that it requires a keen and penetrating eye to distinguish the one from the other. About the 24th of May, the breast and back of the drake exhibit the first appearance of a change of colour. In a few days after this, the curled feathers above the tail drop out, and gray feathers begin to appear amongst the lovely green plumage which surrounds the eyes. Every succeeding day now brings marks of rapid change. By the 23d of June scarcely one single green feather is to be seen on the head and neck of the bird. By the 6th of July every feather of the former brilliant plumage has made its disappearance, and the male has received a garb like that of the female, though of a somewhat darker tint. In the early part of August this new plumage begins to change gradually, and by the 10th of October the drake will appear again in all his magnificence of dress, than which scarcely anything throughout the whole wild field of nature can seem more lovely, or better arranged to charm the eye of man. This description of the change of plumage in the mallard has been penned down with great care. I enclosed two male birds in a coop, from the middle of May till the middle of October, and saw them every day during the whole of their captivity. Perhaps the moulting in other individuals may vary a trifle with regard to time. Thus we may say that once every year, for a very short period, the drake goes, as it were, into an eclipse; so that, from the early part of the month of July to about the first week in August, neither in the poultry-yards of civilised man, nor through the vast expanse of nature's wildest range, can there be found a drake in that plumage which, at all other seasons of the year, is so remarkably splendid and diversified.

Though I dislike the cold and dreary months of winter as much as any man can well dislike them, still I always feel sorry when the returning sun prepares the way for the wild fowl to commence their annual migratory journey into the unknown regions of the north. Their flights through the heavens, and their sportings on the pool, never fail to impart both pleasure and instruction to me. When the time of their departure comes, I bid my charming harmless company farewell, and from my heart I wish them a safe return.

The following observations are from Waterton's note book:—In the spring of the year 1826, an old woman, in the village of Walton, found a wild duck's nest in a neighbouring wood, and put the eggs under a hen. I bought the young wild ducks of her. In the autumn of 1827, five stranger wild ducks came and joined these on the water at Walton Hall. They were two drakes and three ducks. In the spring of 1828 one of these wild ducks was often seen to alight upon the ruin over the old gateway on the island of Walton Hall, which, a century and a half ago, resisted with success the force of Oliver Cromwell. This ruin rises perpendicularly out of the water, and is covered with ivy. Upon this ruin, about eighteen feet above the surface of the water, has the wild duck formed her nest, and is now actually sitting on her eggs. In order that I might be sure of the fact, this afternoon, April 9th, 1828, I procured a ladder, mounted on the ruin, saw the wild duck sitting on her nest, took an egg in my hand, examined it and then put it back into the nest. About four feet above this wild duck's nest is the nest of a white owl; and on the same ruin, at this moment, are four starlings' nests, two house-sparrows' nests, and a ringdove's nest. In a hole of the ruin, on the land side, level with the ground, are the nest and eggs of a Malay fowl. On the 14th of this month (April), about half past six o'clock in the morning, the wild duck, having hatched, had contrived, unseen, to get eleven young ones down into the water. One was dead. On dissecting it, I discovered a bruise on the back. Probably it had struck against one of the thick branches of the ivy in its descent to the water. I stuffed this little duck, and keep it on account of the singularity of its birthplace. The old duck crossed the water with her young brood, and unfortunately fell in with the Cape geese. These savage birds flew at the little ducks, killed most of them, and mortally wounded the rest, so that in a day or two they all died. The old duck made her nest a second time on the same ruin, at the other extremity of it, and a little higher from the water. On the 6th of June 1828, about three o'clock in the afternoon, my servant saw the old duck leave the ruin and fly into the water. Presently he saw ten little ones jump down into the water one after the other. He called me, and I got the boat and secured the whole of them.

Mallard.—The first flock of wild ducks this season made its appearance at Walton Hall on the 11th August 1828.

Wild Duck.—Feb. 5th, 1864. Counted here this morning more than fifteen hundred wild ducks.

THE WIGEON.

From the month of May to that of October we know nothing of the haunts and economy of this cheerful and familiar stranger; for he always takes his leave of us in the spring; at which time, he is supposed to proceed to distant regions of the north, where ornithologists have never yet dared to venture. I am satisfied, in my own mind, that the wigeon does not stay here to breed. All my endeavours to find its nest have hitherto been ineffectual; nor can I recollect to have met with one well-authenticated account of the wigeon's egg having ever been found in England.

Formerly, I used to consider the wigeon as one of those migratory birds of which little could ever be known, as it merely came here to spend the winter months amongst us, in order to avoid the dismal tempests which were raging in its own native land. Under this erroneous impression, I always availed myself of every opportunity to get a shot at the wigeons. Of course, this made them exceedingly shy and wary; for persecution soon shows to birds the danger of placing themselves within the reach of man. Hence their visits here were few and transitory, and sometimes weeks elapsed without my seeing a single wigeon on the water. Since I have shut the temple of Janus, and proclaimed undisturbed repose to those of the feathered race which come to seek for shelter here, the wigeons are in great abundance; and, from the time of their arrival to the period of their departure, they may be found here every day, whether in a frosty, a snowy, or an open season. A stranger on observing them would hardly suppose that they are wild fowl; for he will often see nearly one hundred of them congregated with the tame ducks, not sixty yards from the kitchen windows. Protection has restored to them their innate familiarity; and now I am enabled to say something on certain parts of their economy which our ornithological writers seem never to have noticed.

The wigeon is a much more familiar bird than either the pochard or the teal. While these congregate on the water beyond the reach of man, the wigeon appears to have divested itself of the timidity observable in all other species of wild fowl, and approaches very near to our habitations. A considerable time elapsed before I was enabled to account satisfactorily for the wigeon's remaining here during the night; a circumstance directly at variance with the habits of its congeners, which, to a bird, pass the night away from the place where they have been staying during the day. But, upon paying a much closer attention to it than I had formerly been accustomed to do, I observed that it differed from them all, both in the nature of its food and in the time of procuring it. The mallard, the pochard, and the teal obtain nearly the whole of their nourishment during the night. On the contrary, the wigeon procures its food in the day-time, and that food is grass. He who has an opportunity of watching the wigeon, when it is undisturbed, and allowed to follow the bent of its own inclinations, will find that, while the mallard, the pochard, and the teal are sporting on the water, or reposing on the bank at their ease, it is devouring with avidity that same kind of short grass on which the goose is known to feed. Hence, though many flocks of wigeons accompany the other water-fowl in their nocturnal wanderings, still numbers of them pass the whole of the night here; and this I know to be a fact, by their singular whistling noise, which is heard at all times.

On January 26th, 1832, for the first time, I satisfied myself, beyond all doubt, of what I had long suspected, namely, that wigeons feed upon grass, exactly after the manner of geese. A flock of them was then feeding opposite the windows. I took the large telescope, and distinctly saw them feeding voraciously on the green short blades of grass. Whilst I am writing this (January 12th, 1835) the ground is covered with snow, except under some large elm trees; and at the root of these there are, just now, above one hundred wigeons and thirty coots, all feeding on the grass which is not concealed by the snow.

In other places, where persecution is the wigeon's lot, no doubt it will be very shy in frequenting pastures during the day; and, of course, it will be compelled, contrary to its natural habits, to seek for food throughout the night, in company with its congeners.

As the ordinary food of the wigeons is evidently grass, perhaps there may not be a sufficient supply of it in those high northern regions, whither the water-fowl are supposed to repair when they leave us in spring. Should this conjecture prove well founded, we can account for the wigeon remaining with us till the beginning of May, at which period all the migratory water-birds (saving a few teal, which are known to breed in England) must be busily employed, far away from us, in the essential work of incubation.

Though we are quite ignorant of the manner and place in which the wigeon makes its nest, and of the number and colour of its eggs, still we are in possession of a clew to lead us to the fact, that it hatches its young long after its congeners the mallards have hatched theirs. The mallards return hither, in full plumage, early in the month of October; but the wigeons are observed to be in their mottled plumage as late as the end of November. Again, as the old male wigeon returns to these latitudes in mottled plumage, we may safely infer that he undergoes the same process of a double moulting as the mallard.

I offer to ornithologists these few observations and speculations on the economy of the wigeon, to be approved of, or reproved, or improved, just as they may think fit. Every disquisition, be it ever so short, will help a little to put the science of ornithology upon a somewhat better footing than that on which it stands at present. From reviews, which I have lately read with more than ordinary attention, and from representations of birds, which I have lately examined very closely, I pronounce ornithology to be at least half a century behind the other sciences. I say nothing of the stuffing of birds for cabinets of natural history. Were I to touch upon the mode now in general use, I should prove it to be a total failure, devoid of every scientific principle—a mode that can never, by any chance, restore the true form and features of birds. But to return to the wigeon. I will just add, in conclusion, that I penned down the remarks on its habits, after many very close and often-repeated inspections of the bird, during its winter residence amongst us. I fear, however, that we must be contented to remain in absolute ignorance of many important points of its history, until some bold or hardy naturalist shall penetrate into those distant regions of the north, where this pretty bird, in company with myriads of other wild fowl, is supposed to pass the summer months in undisturbed security.

THE CANADA GOOSE.

"Mopso Nisa datur, quid non speremus amantes?"
—VIRGIL.

THE fine proportions of this stately foreigner, its voice, and flavour of its flesh are strong inducements for us all to hope that erelong it will become a naturalised bird throughout the whole of Great Britain. I stop not to give a detailed description of its plumage; that has already been performed by many able hands. Suffice it then to say, that its beautiful black neck and white cheeks render it so particularly conspicuous, that those who have seen it once will never be at a loss to recognise it, when viewed amongst all other species of the goose tribe.

Towards the close of the last century, thirteen of these birds were to be seen on this sheet of water. My father had taken the precaution to have them pinioned, in order to insure their permanent stay with him; and they were known by no other name than that of

Spanish geese. After my father's death, and during my absence in America, some hungry quadruped, or nocturnal plunderer in the shape of man, thinned down their number to a solitary goose; and, at last, this remaining favourite fell a prey to the fox, ere all entrance into my park had been effectually debarred to that wily villain, by the interposition of a wall, from nine to ten feet in height. No more Canada geese were seen at this place for many years, until, one day, when Mr Ord of Philadelphia, the elegant biographer of poor Wilson, the ornithologist, observed a pair of them to alight on a distant part of the lake. I shall never forget with what joy and enthusiasm this worthy friend announced to me his important discovery of the long-looked-for strangers. But they only tarried for a day or two, and then they went away, and returned no more.

In the winter of the following year, I was agreeably surprised one morning by seeing a flock of four-and-twenty Canada geese on the water. Having never heard that so large a number had been observed on any of the waters in this neighbourhood, I concluded that these birds must have come from a distance. Be this as it may, they seemed satisfied with the security which the place afforded; and they took up their permanent abode amongst us, reserving to themselves, however, the privilege of making excursionary visits to the several ornamental pools of water in the surrounding district. One of these geese seems not to be thoroughly bred, as it wants the jet-black collar on the neck; and it has not that well-defined portion of white on the cheeks, so conspicuous in the others. It appears more suspicious than the rest of the flock; for, on a too near approach of the spectator, it is invariably the first to give mouth, and the first to rise on the wing. When I reflect on the number of enemies, bipeds as well as quadrupeds, with which birds of this description are beset, I often marvel how it is possible that they are able to perform their repeated aërial wanderings without falling a prey to the dangers which must continually await them. I know, to a certainty, that this flock has been shot at by prowlers in the neighbourhood, but hitherto without success. In the breeding season, two or three pairs will remain here. The rest take themselves off, and are seen no more till the return of autumn, when they re-appear, without any addition to the flock or diminution of it. This is much to be wondered at;

and I would fain hazard a conjecture, that their young may possibly be captured in the place where they have been hatched, and then pinioned to prevent escape. But, after all, this is mere speculation. We know nothing of the habits of our birds of passage when they are absent from us; and we cannot account how it comes to pass that the birds just mentioned invariably return to this country without any perceptible increase of numbers; or, if the original birds die or are destroyed, why it is that the successors arrive in the same numbers as their predecessors.

Geese and swans may be taken without any difficulty about a fortnight after the sun has entered the tropic of Cancer. At that period, the large feathers of the wing drop off, and a month must elapse before the new ones arrive at a state of sufficient maturity to bear away the bird in flight. Two years ago, six of my Canadians having determined to stay here during the summer, I watched them narrowly at the time of moulting; but they seemed so aware of their helpless state, that they never strayed far enough from the water's edge to allow us to place ourselves betwixt it and them. At length, I effected my purpose by a stratagem, and secured them.

There can be nothing more enlivening to rural solitude than the trumpet-sounding notes of the Canada goose. They may be heard here at most hours of the day, and often during the night. But spring is the time at which these birds are most vociferous. Then it is that they are on the wing, moving in aërial circles round the mansion,—now rising aloft, now dropping into the water, with such notes of apparent joy and revelry, as cannot fail to attract the attention of those who feel an interest in contemplating Nature's wildest scenery.

Somehow or other it has unfortunately been my lot through life to pay smartly for my little researches in natural history, when business or inclination have brought me back to the shores of my native country. The former zeal-subduing affair at Liverpool will not be unknown to those who shall have read the *Wanderings;* and latterly at Hull, through the pig-headedness of a subaltern custom-house officer, and the haughty demeanour of another in a higher station of the same establishment, my ornithological views were frustrated, and, I may say, I lost at one go, my time, my patience, and my money.

You shall see how this happened. Having purchased two pairs of Bernacle geese, and four wigeons at Rotterdam, I got them put into a hamper, and I took them with me on board the vessel which steams weekly betwixt that town and the port of Hull. We had a charming passage, short and smooth; and on our arrival in the Humber, I informed the visiting custom-house officer that I had four geese and four wigeons in the hamper which stood before him. "They must go to the custom-house," said he. "I know they must," said I, "if they were dead geese for the purpose of commerce. But they are living geese," continued I, "and of course exempt by law from such an unpleasant errand." "No matter," said he, obstinately; "to the custom-house they must and shall go, alive or dead." And to the custom-house they went, on a truck without springs, trotting all the way over the rough pavement into the heart of the town of Hull. On our arrival at the custom-house, another officer, in a harsh tone of voice, asked me why I had brought living geese to that place. "By peremptory orders," said I, "from the visiting custom-house officer in the river." "He is a booby," said this officer. "Let these geese be removed; they don't pay duty." My geese and wigeons were instantly withdrawn from his haughty presence; and they had another jolting through the streets of Hull to the water-side, with some fears, on my part, that they would not forget in a hurry their being jumbled together so rudely in the performance of a useless expedition. We steamed up the Humber, and reached Walton Hall late that night. The Bernacle ganders had borne their journey well; but it was otherwise with the two geese and three of the wigeons. They appeared out of sorts, and died in the course of the following week.* The two surviving ganders, being bereft of their connubial comforters, seemed to take their misfortune sorely to heart for some time, till at last they began to make advances for permission to enter into the company of the Canadian geese. These good birds did not hesitate to receive them; and from that time to this the two very distinct species of geese (the one being only half the size of the other) have become one inseparable family. The two Bernacles, being pinioned, cannot of course accompany the Canadians in their wonted peregrinations through the country. But they remain in unalterable alliance and friendship with five other Canadians, which, with themselves, have undergone a similar process of losing part of the wing, to prevent their departure from home.

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* Perhaps their death might have been accelerated by the act of pinioning them, although it seemed to have had no bad effect on the ganders.

On my return from Italy, in the autumn of 1841, the keeper informed me that, in the preceding spring, one of the little Bernacle ganders, accompanied by an old Canadian goose, had come on the island where the mansion stands, and formed a kind of nest on the border of a flower-bed near the boat-house; that the female had laid five eggs in it; and that all these eggs had turned out addle. I could easily comprehend the latter part of his information relative to the eggs: but had he told me that the income-tax is a blessing, and that the national debt is an honour to the country, I could more readily have believed him, than that a Canada goose had been fool enough to unite herself with a Bernacle gander. Nevertheless, the man persisted stoutly in what he had affirmed, and I told the story to others, and nobody believed me. In the breeding season, however, of 1842, this diminutive gander and magnificent goose appeared on the island; and as the spot which they had occupied on the preceding year was very bleak and quite unsheltered, I thought that I could offer them a more commodious situation. Just opposite the eastern windows of the sitting-room, and two-and-twenty yards distant from them, there is yet alive the remnant of a once superb and fertile blackheart cherry-tree. It was evidently past its prime in the days of my early youth; but I can well remember that it then bore ponderous loads of dainty cherries. This cherry-tree, like the hand that is now writing a description of it, appears the worse for wear; and the wintry blasts of more than half a century have too clearly proved that neither its internal vigour, nor the strength of its gigantic limbs, could make an effectual stand against the attacks of such sturdy antagonists. Its north-western and north-eastern parts have gradually died away, and what remains alive of it to the southward can no longer produce fruit to be compared with that of gone-by periods. The bole, too, which measures full ten feet and five inches in circumference at the graft, seems to show signs of Time's hard usage. Perhaps in a few years more a south-western gale, which often does much damage here, may lay it low in ruins. Close to this venerable tree I made a hollow in the ground, about the size of an ordinary coal-basket, and filled it with hay. The geese soon took possession of it; and on the third day after they had occupied it, the female laid an egg in it. She ultimately sat on five, and they all proved addle. Last year this incongruous, though persevering, couple visited the island again, and proceeded with the work of incubation in the same place, and upon hay which had been purposely renewed. Nothing could exceed the assiduity with which the little Bernacle stood guard, often on one leg, over his bulky partner, day after day, as she was performing her tedious task. If anybody approached the place, his cackling was incessant: he would run at him with the fury of a turkey-cock; he would jump up at his knees, and not desist in his aggressions until the intruder had retired. There was something so remarkably disproportionate betwixt this goose and gander, that I gave to this the name of Mopsus, and to that the name of Nisa; and I would sometimes ask the splendid Canadian Nisa, as she sat on her eggs, how she could possibly have lost her heart to so diminutive a little fellow as Bernacle Mopsus, when she had so many of her own comely species present, from which to choose a happy and efficient partner. The whole affair appeared to be one of ridicule and bad taste; and I was quite prepared for a termination of it, similar to that of the two preceding years, when, behold! to my utter astonishment, out came two young ones, the remainder of the five eggs being addle. The vociferous gesticulations and strutting of little Mopsus were beyond endurance, when he first got sight of his long-looked-for progeny. He screamed aloud, whilst Nisa helped him to attack me with their united wings and hissings, as I approached the nest in order to convey the little ones to the water; for the place at which the old birds were wont to get upon the island lay at some distance, and I preferred to launch them close to the cherry-tree, which done, the parents immediately jumped down into the water below, and then swam off with them to the opposite shore. This loving couple, apparently so ill-assorted and disproportionate, has brought up the progeny with great care and success. It has now arrived at its full growth and is in mature plumage. These hybrids are elegantly shaped, but are not so large as the mother, nor so small as the father, their plumage partaking in colour with that of both parents. The white on their front is only half as much as that which is seen on the front of the gander, whilst their necks are brown in lieu of the coal-black colour which appears on the neck of the goose. Their breasts, too, are of a dusky colour, whilst the breast of the Bernacle is black, and that of the Canadian white; and throughout the whole of the remaining plumage, there may be seen an altered and modified colouring not to be traced in that of the parent birds. I am writing this in the middle of February. In a fortnight or three weeks more, as the breeding season approaches, perhaps my little Mopsus and his beauteous Nisa may try their luck once more, at the bole of the superannuated cherry-tree. I shall have all in readiness, and shall be glad to see them. I certainly acted rashly, notwithstanding appearances, in holding this faithful couple up to the ridicule of visitors who accompanied me to the spot where the novel incubation was going on. I have had a salutary lesson, and shall be more guarded for the future in giving an opinion. Information is always desirable, and is doubly satisfactory when accompanied by a demonstration. Nine times out of ten, that from the close is to be preferred to that from the closet. In the present instance, my speculation that a progeny could not be produced from the union of a Bernacle gander with a Canada goose has utterly failed. I stand convinced by a hybrid, reprimanded by a gander, and instructed by a goose.

THE DOMESTIC SWAN.

> "Carmina jam moriens canit exequialia cygnus."
> —OVID.

IN the whole catalogue of British birds, there is not one to be found more graceful and majestic than our common domestic swan. With me it is a particular favourite. Being quite out of harm's way, my swans become much tamer than they are wont to be at other places; and as every window of the house bears upon the water which flows around the island, there is the finest opportunity possible of observing the habits of these birds, whose movements are so ornamental to it, and so attractive to spectators.

The male and female are so alike in colour and in plumage, that were it not for a trifling difference in size, and in the red of the beak, it would be a difficult task to distinguish the one from the other. The snow-white feathers in the wing receive additional beauty by the muscular power which the swan possesses of raising them without extending the wing itself. The appearance of orange colour on the heads of swans is merely accidental, and is acquired when the birds are searching for food with their heads under water at the roots of sedges. The impregnation is so strong, that the feathers will retain the colour for months; and this has given rise to the erroneous conjecture of its being original.

Such is the power and size of the swan, that our golden eagle itself will not dare to attack it: much less chance, then, would the white-headed eagle of the United States have in combat with it. If we can bring ourselves to believe the modern assertion that a swan spreads its legs in order to accelerate its flight, we can easily conceive that, by some magic or other, the eagle may be able to strike its talons into the swan's heart, notwithstanding the bone and the mass of muscle which obstruct access to that deeply-seated organ. The fact is, no bird in the world ever spreads its legs in order to increase the velocity of its flight. Such an act would have the very contrary effect. In flight, the legs of birds (with very few exceptions) come quite up to the body. In some the toes point forwards, in others backwards, for obvious reasons; and it is only when a bird is about to alight on land, or on the water, that it stretches out its legs or spreads its webs; and this is done to check the descent, in order that the body may escape from injury.

Many years ago, I allowed one of my swans the full use of both its wings, and great was the gratification which its aërial evolutions afforded me. Its powers of flight were truly astonishing. It visited all the sheets of water for many miles around; and, being very tame, it would sometimes, on its return home, alight within a few yards of me, as I was standing near the margin of the water. On taking its excursions into the world at large, I would often say to it in a kindly tone of voice as it flew over my head, "Qui amat periculum, peribit in illo ;" as I too clearly foresaw that foes would lie in ambush for it. At last, I missed my rash and pretty favourite. It had taken wing to the westward one fine morning, and that morning was its last. I looked for its return in vain; and every day my hope grew weaker as my fears increased. Towards the close of the week, I read in the Wakefield paper that a professional gentleman, in the neighbouring town of Horbury, had succeeded in shooting a magnificent wild swan, which had been previously observed in that quarter. This made me suspect that my poor swan had fallen by that identical shot, for I never saw it more.

Were wild swans less persecuted on their annual visit to the shores of Great Britain, we should see much more of their habits than we do at present. I once had a flock of fifty-two real wild swans here. They seemed aware of the protection afforded them, and they tarried with me above a month. Six years after this, another flock sojourned on the lake for about a week.

There is a peculiarity in the nidification of the domestic swan too singular to be passed over without notice. At the time that it lays its first egg, the nest which it has prepared is of a very moderate size; but, as incubation proceeds, we see it increase vastly in height and breadth. Every soft material, such as pieces of grass and fragments of sedges, are laid hold of by the sitting swan as they float within her reach, and are added to the nest. This work of accumulation is performed by her during the entire period of incubation, be the weather wet or dry, settled or unsettled; and it is perfectly astonishing to see with what assiduity she plies her work of aggrandisement to a nest already sufficient in strength and size to answer every end.

My swans generally form their nest on an island quite above the reach of a flood, and still the sitting bird never appears satisfied with the quantity of materials which we provide for her nest. I once gave her two huge bundles of oaten straw, and she performed her work of apparent supererogation by applying the whole of it to her nest, already very large, and not exposed to destruction, had the weather become ever so rainy. This singular propensity, amongst many others in the economy of birds, puts speculation on our part quite out of the question. We can no more account for this seemingly unnecessary anxiety in the sitting swan to augment the size of its nest, than we can explain why the little long-tailed titmouse invariably provides itself with a spherical nest, warm as a winter's coat; whilst a still more delicate bird of passage from the hot countries is content with one of hemispherical form, and so scantily supplied with materials whereon to lay its eggs, in this cold and changeable climate, that it is little better in appearance than one of network composition.

Where swans are kept on a moderately-sized sheet of water, the old ones, as spring approaches, begin to pursue their own brood with a ferocity scarcely conceivable. It is an unceasing pursuit, both night and day; till at last, the poor fugitives worn out with exertion, betake themselves to the land, where the unnatural parents allow them to stay, and then desist from further persecution, till the young ones return to the water. To curb these rancorous proceedings on the part of the parent birds, I cut through the web of their feet; and this at once diminished their powers of speed. The young birds soon perceived the change in their favour, and profited by it; for, on finding that they could easily outswim their pursuing parents, they set their fury at nought, and kept out of their reach with very little exertion.

Where the domestic swan is free from every species of molestation, it becomes exceedingly tame, and passes by far the greater part of its time out of the water. Here no idle boys molest the swans; no petted dogs pursue them; no guns alarm them; and no foxes prowl to pounce upon them. Hence they are seen walking to and fro in all parts of the park; and they will take the bread from your hand with a familiarity that at once bespeaks their unconsciousness of danger. Towards the close of last April, our favourite male swan swallowed a double eel-hook, to which was attached a shank of twisted wire about a foot in length. It had descended so low into the gullet, and fixed itself so firmly there, that I saw at once we had no chance whatever of extracting it by the mouth. Knowing that death must inevitably ensue if the hook were not removed in due time, and distrusting my own operating powers on a living bird, I sent over to Wakefield, and requested the immediate attendance of Mr Bennett, our scientific family-surgeon. He laid open the gullet to the extent of six inches, and we drew out the hook from this frightful aperture. The wound was then closed by suture, and without any other application, the bird was turned loose upon its native element; as we judged it would do better there, than if put into confinement.

The supposed melody of the dying swan seems to be a fable of remote antiquity. I have long been anxious to find out upon what grounds the ancients could possibly attach melody to an expiring bird, which neither in youth nor in riper years ever shows itself gifted with the power of producing a single inflection of the voice that can be pronounced melodious. Ovid, no doubt, was well skilled in real ornithology, for in every part of his "Metamorphoses," we can trace some of the true habits of birds, and often see their natural propensities through the mystic veil which his poetical fancy had so dexterously placed before them. Still the swan is an exception; for there is nothing whatever to be perceived in the entire economy of this bird that can, by any turning or twisting, justify Ovid's remark, that it will warble its own funeral song on the near approach of death. The transformation of Cycnus into a swan is very entertaining:—When Phaeton, the well-known incendiary, had burnt down every corn-rick in mother Earth's farm-yard, and placed her own beloved person in danger of immediate suffocation,

> ——— "neque enim tolerare vaporem
> Ulterius potuit,"

Jupiter felled him dead into the river Po—a somewhat milder punishment than if he had sent him to Norfolk Island for life. His poor sisters wept so intensely at having lost him for ever, that they became trees (probably weeping willows), and actually took root in the ground. His near relative, Cycnus, too, was so stupified at what had happened, that he could no longer perform the duties of his royal station. He left his throne and all its pleasures, and became a voluntary wanderer on the banks of that river into which the dead body of Phaeton had fallen. Its banks and its trees, some of which had so lately been Phaeton's own sisters, resounded far and near with his doleful lamentations. One morning, on awaking from sleep, he found that he had lost his usual voice, and that he could only squeak. Soon after this, his neck became wonderfully stretched out, webs grew betwixt his fingers, and feathers sprouted out from beneath his flannel waistcoat. In a few minutes more, his mouth had all the appearance of a beak, and he actually became a swan; and to this day he is seen to frequent swamps and lakes, as being places the most secure against fire, which had done such mischief to his family.

> "Stagna colit, patulosque lacus; ignemque perosus,
> Quæ colat, elegit contraria flumina flammis."

Once I had an opportunity, which rarely occurs, of being with a swan in its last illness. Although I gave no credence to the extravagant notion which antiquity had entertained of melody from the mouth of the dying swan, still I felt anxious to hear some plaintive sound or other, some soft inflection of the voice, which might tend to justify that notion in a small degree. But I was disappointed. This poor swan was a great favourite, and had been the pride of the lake time out of mind. Those who spend their life in the country, and pay attention to the ordinary movements of birds, will easily observe a change in them, whenever their health is on the decline. I perceived that the plumage of this swan put on a weather-beaten appearance, and that the bird itself no longer raised the feathers of his wings, as he passed through the water before me. Judging that he was unwell, I gave orders that he should be supplied with bread and boiled potatoes. Of these he ate sparingly, and in a day or two he changed his quarters, probably for want of sufficient shelter from the wind. Having found his way down to the stables, he got upon a small fish-pond there, out of the reach of storms. From this time he never fended for food, but he continued to take a little white bread now and then from my hand. At last, he refused this; and then he left the water for good and all, and sat down on the margin of the pond, with evident signs of near-approaching death. He soon became too weak to support his long neck in an upright position. He nodded, and then tried to recover himself, and then nodded again, and again held up his head; till at last, quite enfeebled and worn out, his head fell gently on the grass, his wings became expanded a trifle or so, and he died whilst I was looking on. This was in the afternoon, and I had every facility of watching his departing hour, for I was attending the masons, some thirty yards from the pond to which the swan had retired. He never even uttered his wonted cry, nor so much as a sound, to indicate what he felt within. The silence which this bird maintained to the last, tends to show that the dying song of the swan is nothing but a fable, the origin of which is lost in the shades of antiquity. Its repetition can be of no manner of use, save as a warning to ornithologists not to indulge in the extravagances of romance—a propensity not altogether unknown in these our latter times.

THE GUILLEMOT.

The immense range of perpendicular rocks, lashed by old ocean's briny surge, offers a choice and favourable retreat to myriads of wild fowl, from far-famed Flamborough Head to Bempton, and thence to Buckton and Speaton, and onwards to the Bay of Filey. He who wishes to examine the nidification of these birds ought to be at this part of the sea-coast early in the month of May. About five miles from Bridlington Quay is the village of Flamborough, chiefly inhabited by fishermen; and a little farther on is a country inn, called the North Star, which has good accommodation for man and horse; but a lady would feel herself ill at ease in it, on account of the daily visits of the fishermen, those hardy sons of Neptune, who stop at it on their way to the ocean, and again on their return. Here they rendezvous, to fortify their interior with a pint or two of com fort, and to smoke a pipe, by way of compensation for the many buffets which they ever and anon receive in the exercise of their stormy and nocturnal calling.

On the bare ledges of these stupendous cliffs, the guillemot lays its egg, which is exposed to the face of heaven, without any nest whatever; but the razorbills and puffins lay theirs in crannies, deep and difficult of access. Here, too, the peregrine falcon breeds, and here the raven rears its young; while the rock pigeon and the starling enter the fissures of the precipice, and proceed with their nidification, far removed from the prying eye of man. The kittiwake makes her nest of dried grass wherever she can find a lodgement, and lays two spotted eggs, very rarely three. The cormorant and shag inhabit that part of the rocks which is opposite to Buckton Hall. You are told that the cormorants had their nests, in former times, near to the Flamborough lighthouse ; but now these birds totally abandon the place during the breeding season. The jackdaw is found throughout the whole of this bold and craggy shore. He associates with the sea-fowl, as though he were quite at home amongst his own inland congeners. Towards the top of the cliffs both rabbits and foxes have descended from the table-land above them, and managed to find a shelter among the crevices, in places where you would suppose that no four-footed animal would ever dare to venture. A low mound, half-earth, half-stone, thrown up by the farmers for the protection of their flocks, skirts the winding summit of the precipice. Cattle have been known to surmount this artificial boundary, and lose their lives in the roaring surge below.

This extensive range of rocks, as far as appertains to birds, is not considered private property. Any person who can climb it may carry away what number of eggs he chooses. Still there is a kind of honourable understanding betwixt the different sets of climbers, that they will not trespass over the boundaries which have been marked by mutual consent.

The eggs of the guillemot and razorbills form a considerable article of traffic from old May-day till about the middle of June. Though the eggs of the kittiwake and puffin are of fully as good a flavour, still they are not in such request, on account of their tender shells, which are easily broken in packing, and in transporting from place to place.

The usual process of seeking for the eggs is generally carried on by three men, though two will suffice in case of necessity. Having provided themselves with two ropes of sufficient length and strength, they drive an iron bar into the ground, about six inches deep, on the table-land at the top of the precipice. To this bar is fastened the thickest of the two ropes, and then it is thrown down the rocks. He who is to descend now puts his legs through a pair of hempen braces. which meet round his middle, and there form a waistband.

At each end of this waistband is a loophole, through which they reeve the smaller rope. Sometimes an iron hook and eye are used in lieu of this loop. A man now holds the rope firmly in his hand, and gradually lowers his comrade down the precipice. While he is descending he has hold of the other rope, which was fastened to the iron bar; and, with this assistance, he passes from ledge to ledge, and from rock to rock, picking up the eggs of the guillemot, and putting them into two bags, which he had slung across his shoulder ere he commenced his arduous undertaking. When he has filled these bags with eggs, he jerks the rope, and the motion informs his friend at the top that it is now time to draw him up. On coming up again to the place from whence he first set out, all the eggs are taken from the bags, and put into a large basket prior to their being packed in hampers and carried off in a cart by wholesale dealers, who purchase them from the climbers for sixpence the score. At Bridlington and the neighbouring places the eggs are retailed at a halfpenny a piece.

The rocks are searched for eggs every third day, provided the weather be fair. It requires considerable address on the part of the descending climber to save himself from being hit by fragments of the rock, which are broken off by the rope coming in contact with them. He avoids the danger, by moving sidewise when the stone is falling, and by taking care, as he goes down, to clear away with his foot any portion of the rock that seems ready to give way. One of the climbers, while he was imparting to me instructions how to act, grinned purposely, and showed his upper jaw. I learned by his story, that, last year, a falling stone had driven two of his front teeth down his throat; while the poor climber, with all his dexterity, was unable to fend off the blow.

As I was lowered down, the grandeur and sublimity of the scene beggared all description, and amply repaid any little unpleasant sensations which arose on the score of danger. The sea was roaring at the base of this stupendous wall of rocks; thousands and tens of thousands of wild fowl were in an instant on the wing; the kittiwakes and jackdaws rose in circling flight; while most of the guillemots, razorbills, and puffins left the ledges of the rocks, in a straight and downward line, with a peculiarly quick motion of the pinions, till they plunged into the ocean. It was easy to distinguish the puffins from the razorbills in their descent: these presented a back of a uniformly dark colour, those had a faint white diagonal line running across the wings. The nests of the kittiwakes were close to each other, on every part of the rocks which was capable of holding them; and they were so numerous as totally to defy any attempt to count them. On the bare and level ledge of the rocks, often not more than six inches wide, lay the eggs of the guillemots: some were placed parallel with the range of the shelf; others, nearly so; and others, with their blunt and sharp ends indiscriminately pointing to the sea. By no glutinous matter, nor any foreign body whatever, were they affixed to the rock: bare they lay, and unattached, as on the palm of your outstretched hand. You might see nine or ten, or sometimes twelve, old guillemots in a line, so near to each other that their wings seemed to touch those of their neighbours; and when they flew off at your approach, you would see as many eggs as you had counted birds sitting on the ledge.

The eggs vary in size and shape and colour beyond all belief. Some are large, others small, some exceedingly sharp at one end, and others nearly rotund. Where one is green, streaked, and blotched with black, another has a milk-white ground, blotched and streaked with light brown. Others, again, present a very pale-green colour, without any markings at all; while others are of a somewhat darker green, with streaks and blotches of a remarkably faded brown. In a word, nature seems to have introduced such an endless intermixture of white, brown, green, yellow, and black into the shells of the eggs of the guillemots, that it absolutely requires the aid of the well-set pallet of a painter to give an adequate idea of their beautifully blended variety of colouring. The pen has no chance of success in attempting the description.

The rock-climbers assure you that the guillemot, when undisturbed, never lays more than one egg; but that, if it be taken away, she will lay another; and, if she be plundered of that, she will then produce a third; and so on. If you dissect a guillemot, you will find a knot of eggs within her. The rock-climbers affirm that the bird can retain these eggs, or produce them, according to circumstances. Thus, if she be allowed to hatch her first egg, she lays no more for the season; if that egg be lost or taken away, another is laid to supply its place.

The men also assure you that, when the young guillemot gets to a certain size, it manages to climb upon the back of the old bird, which conveys it down to the ocean. Having carried a good telescope with me, through it I saw numbers of young guillemots diving and sporting on the sea, quite unable to fly; and I observed others on the ledges of the rocks, as I went down among them, in such situations that, had they attempted to fall into the waves beneath, they would have been killed by striking against the projecting points of the intervening sharp and rugged rocks: wherefore I concluded that the information of the rock-climbers was to be depended upon; and I more easily gave credit to it, because I myself have seen an old swan sailing on the water with her young ones upon her back, about a week after they had been hatched.

He who rejoices when he sees all nature smiling around him, and who takes an interest in contemplating the birds of heaven as they wing their way before him, will feel sad at heart on learning the unmerited persecution to which these harmless sea-fowl are exposed. Parties of sportsmen, from all parts of the kingdom, visit Flamborough and its vicinity during the summer months, and spread sad devastation all around them. No profit attends the carnage; the poor unfortunate birds serve merely as marks to aim at, and they are generally left where they fall. Did these heartless gunmen reflect, but for one moment, how many innocent birds their shot destroys; how many fall disabled on the wave, there to linger for hours, perhaps for days, in torture and in anguish; did they but consider how many helpless young ones will never again see their parents coming to the rock with food; they would, methinks, adopt some other plan to try their skill, or cheat the lingering hour.

THE CORMORANT.

THE fabulous story concerning the cormorant made a great impression upon me in early youth; and I well remember with what avidity I first read his true history in the pages of Buffon.

The old fable tells us that the cormorant was once a wool-merchant. He entered into partnership with the bramble and the bat, and they freighted a large vessel with wool. She struck on some rocks and went to the bottom. This loss caused the firm to become bankrupt. Since that disaster, the bat skulks in his hiding-hole until twilight, in order that he may avoid his creditors; the bramble seizes hold of every passing sheep, to make up his loss by retaining part of its wool; while the cormorant is for ever diving into the waters of the deep, in hopes of discovering whereabouts his foundered vessel lies. So far for the fable, which will always bring pleasing recollections into the minds of those who are fond of rural pursuits.

The cormorants often pay me a visit in the winter season; and, could they but perceive that there is safety for them here, and great danger elsewhere, they would remain with me while the water is unfrozen. But they wander, unfortunately, through parts where protection is not afforded them; and, being outlandish birds in the eyes of the neighbouring gamekeepers, they are immediately shot at. Those which find their way here are so unconscious of danger, that, after they have spent a considerable portion of time it diving for fish, they will come and preen their feathers on the terrace which rises from the water, within ten yards of the drawing-room windows.

The cormorant may justly be styled the feathered terror of the finny tribe. His skill in diving is most admirable, and his success beyond belief. You may know him at a distance, among a thousand water-fowl, by his upright neck, his body being apparently half-immersed in the water, and by his being perpetually in motion when not on land. While the ducks and teal and wigeons are stationary on the pool, the cormorant is seen swimming to and fro, "as if in quest of something." First raising his body nearly perpendicular, down he plunges into the deep; and, after staying there a considerable time, he is sure to bring up a fish, which he invariably swallows head-foremost. Sometimes half an hour elapses before he can manage to accommodate a large eel quietly in his stomach. You see him straining violently, with repeated efforts to gulp it; and when you fancy that the slippery mouthful is successfully disposed of, all on a sudden the eel retrogrades upwards from its dismal sepulchre, struggling violently to escape. The cormorant swallows it again; and up again it comes, and shows its tail a foot or more out of its destroyer's mouth. At length, worn out with ineffectual writhings and slidings, the eel is gulped down into the cormorant's stomach for the last time, there to meet its dreaded and inevitable fate. This gormandising exhibition was witnessed here by several individuals, both ladies and gentleman, on Nov. 26th, 1832, through an excellent eight-and-twenty-guinea telescope; the cormorant being at that time not more than a hundred yards distant from the observers. I was of the party.

When I visited Flamborough Head in the first week in June, I was disappointed in not seeing the cormorant there; but I was informed in Bridlington Quay, that this bird was not to be found nearer than the rocks at Buckton; and that it had eggs very late in the season. In consequence of this information, I made a second expedition to the sea-coast, and arrived at Bridlington Quay on July 14th, 1834.

About three quarters of a mile from the sea, betwixt Flamborough Head and Filey Bay, stands the once hospitable mansion of Buckton Hall. I say hospitable, because its carved ornaments in stone, its stately appearance, and the excellent manner in which its out-buildings have been constructed, plainly indicate that mirth and revelry must once have cheered its walls. But the tide of prosperity has ceased to flow. Something or other seems to have intervened, and turned it down another channel; for now the once well-known Buckton Hall is a neglected mansion; and the stranger, as he passes near it, sees at one glance that it is no longer a place of rendezvous for the great. The present tenant kindly allowed the horse and gig, which I had hired at Bridlington Quay, to be put under cover till I returned from the cliff.

My guide, whose name was Mellor, and who possesses a very accurate knowlege of all the birds in this district, having mustered men and ropes in the village of Buckton, we proceeded across the tableland to the Raincliff, which forms a perpendicular wall to the ocean. 140 yards high. Whilst I was descending this precipice, thousands of guillemots and razorbills enlivened the interesting scene. Some were going down to the water; others were ascending from it; while every ledge of the rock, as far as my eye could reach, was literally covered with birds of the same species. The cormorants stayed not to witness my unwelcome descent unto their ancient and almost inaccessible settlement. They all took wing as soon as we reached the edge of the cliff, and went far away to sea. It was a difficult matter to procure their eggs, for the nests were built in places where rocks overhang them; and it was only by my giving the rope a swinging motion, and then taken advantage of it, as it brought me to the face of the cliff, that I was enabled to get a footing on the ledges which contained them. These nests were composed of thick sticks, plants from the rocks, grass, ketlocks which had gone to seed, and a little wool. There were four young birds in one, three eggs in another, two in a third, and one, newly-laid, in a fourth. The shell of the cormorant's eggs is incrusted with a white chalky substance, which is easily scraped off with your penknife, and then you get at the true colour of the shell; the outside of which is of a whitish green; and the inside of a green, extremely delicate and beautiful. The egg is oblong in shape, and you will find it small for the size of the bird. The four young cormorants were unfledged, and covered with a black down. Their long necks, and long wing-bones, gave them a grotesque, and almost hideous appearance. They would have been of service to the renowned Callot, when he was making his celebrated sketch of the "Temptations of St Anthony." There came from the nests a fetid smell, so intolerable, that you might have fancied you had got among Virgil's Harpies; or that you were inhaling exhalations from the den of Cacus. Nothing could have been more distressing to your nasal sensibilities.

It is remarkable that on the Raincliff not a kittiwake is seen to alight; and scarcely ever observed to fly close past it. I saw no signs that this bird had ever made its nest here. An attentive naturalist, who would take up his quarters in this neighbourhood, and visit the coast every day during the breeding season, might possibly be able to discover the cause why the kittiwake, which is seen in such countless thousands from Flamborough Head to Bempton, should shun the Raincliff, which apparently differs in nothing but height from the other parts of this bold and rocky shore.

I am positive that we have not two species of cormorant in Great Britain. The crested cormorant, with a white spot on each thigh, is merely the common cormorant in his nuptial dress. This is not the only bird which becomes highly ornamented during the breeding season. On some future day, when the storms of winter forbid all access to the fields, and condemn me to the dull monotony of life within doors, I may possibly take up the pen, and write down a few remarks upon the change of plumage in birds.

The flesh of the cormorant possesses no flavour that would suit the palate of our modern epicures. Hence it is despised by aldermen, and, of course, never served up at a Lord Mayor of London's feast. On the sea-coast, this poor bird is shot at by marksmen through mere wanton pastime; and when he takes a flight inland, he runs great risk of never getting back again to sea; for nobody will befriend him, on account of his well-known inclination to make too free with the contents of well-stored fish-ponds. Still, for my own part, I love to see him come this way. Stay here, poor wandering mariner, as long as it pleases thee to do so. The sight of thee puts me in mind of happy hours I spent in reading the "Metamorphoses" at the Jesuits' College. Well do I remember how beautifully the poet tells thy affecting story, before thou wert reduced to the necessity of diving for a livelihood. I do not care if thou takest all the eels in the lake. Thou art welcome to them. I am well aware that thy stomach requires a frequent and a large supply. So, pr'ythee, help thyself.

THE TROPIC BIRD.

"Quinque tenent cœlum zonæ, quarum una corusco
Semper sole rubens, et torrida semper ab igni."
—VIRGIL.

THE burning zone in which the ancients have placed the zodiac is the favourite resort of this solitary wanderer over the deep. He is called Phaeton by Linnæus, and Paille-en-queue by Buffon; whilst our own mariners address him under the familiar appellation of Marlingspike, and sometimes under that of Boatswain.

Our ornithological nomenclature is much more dignified now-a-days than it was in the olden time. Many a bird, which heretofore would have received its name from some particular spot in which it resided—the *wood*-owl, to wit; or from some peculiar food upon which it was known to feed,—the *carrion*-crow, for example, now bears the name of some individual of the human race, some friendly patron, some modern Crœsus, who can assist the author in his journey through an expensive press. In the first volume of a recent work on North American Ornithology, no less than thirteen birds appear to bear the names of men. I have my doubts whether this complimentary nomenclature be of any real benefit to the public at large, or to science in general. Perhaps our own sages here in the East will discuss this question at their leisure. I could wish, however, that the Western artist had given us a glossary, by means of which we might learn something of the philosophers after whom his birds are named; as I take it for granted (though possibly I may be mistaken) that his thirteen birds are really named from individuals of the human race. In the plates to the first volume of his work, I find that a hawk is called the "Black Warrior," and that the Latin name which he has given it is "Falco Harlani." Pray, who or what is Harlani? A man, a mountain, or a mud-flat? Is "Black Warrior" a negro of pugnacious propensities? Leaving, then, the advantages, or disadvantages, of this peculiar nomenclature to be discussed by doctors learned in ornithology, I will advert to times gone-by, and I will remark that Linnæus, the Swede, at all events, has been happy in the name which he has given to one of his birds, and this is the tropic bird. He has called it Phaeton, no doubt whatever, because it is chiefly to be found in that region where old Apollo's son cut so conspicuous a figure on his father's coach-box. All the world has heard of Phaeton, and of the manner in which he unfortunately broke down in his first and last attempt at four-in-hand. Linnæus, then, did well in giving the name of Phaeton to the tropic bird; and I should not wish to see the name exchanged for that of the first doctor, duke, or draper of these our latter days.

Whilst inspecting the bird Phaeton, which may be found in some of our museums, full many a careful parent may say to his aspiring heir, Take warning, my lad, in time, and shun all jockeys and jarvies as thou wouldst shun a pestilence. "Consiliis, non curribus utere nostris." The turf-boys will get the last penny out of thy pocket, and laugh thee to scorn; and thou wilt be obliged to leave thy family-place, and go to foreign parts, there to vegetate on short allowance. As Phaeton and his rueful adventures have been immortalised by the Roman poet, whose works will be read by all nations to the end of time, the name of Phaeton, which Linnæus has given to the tropic bird, runs no risk now of being lost, like those of some of its congeners, in the impenetrable obscurity which hangs over the modern nomenclature of birds.

Far, far away from land, where the Atlantic waves roll beneath the northern tropic, our mariners are often favoured with a view of the bird which I am about to describe. The total absence of all other winged inhabitants of air, save now and then a Mother Carey's chicken, renders the appearance of Phaeton very interesting in this sequestered region of the deep; and every soul on board hastens to get a glance at him as he wings his lonely way through the liquid void.

The plumage of this bird is black and white; but the white on the upper parts of the body is not pure, having a tinge of salmon colour in it. The whole of the skin itself is entirely black. A streak of black feathers, two-eighths of an inch broad, ranges from the upper mandible to the eyes, and is continued from thence in a curved line downwards, for nearly an inch and a half in extent. Another range of black feathers commences at the shoulders and ends with the tertials. Some of the feathers in it are tipped with white, and others are edged with it, whilst others again are quite black. The outer web on the first five feathers is black, and nearly half of the inner web is of the same colour; the ends of these feathers being irregularly tipped with white, which prevails more in the first feather than in the remaining four. A tuft of dark-coloured feathers with white edges adorns the thighs, and falls gracefully under the coverts of the tail, which coverts are of a similar colour. The shafts of the tail feathers are black for two-thirds of their length, the remaining third being white. The tail itself is cuneiform, the two covert feathers of which measure nineteen inches in length. The bird, from the tip of the beak to the extremity of the tail, is two feet and a half long. Its legs are of an orange colour. The webs of the feet down to the toes are dark-black, except that part which divides the first toe from the small one, it being of the same colour as the legs.

I have been minute in describing this marine wanderer, as it is by no means common in our museums. Moreover, I take a more than ordinary interest in the bird on account of its singular habit in going to such an astonishing distance from the land. Its name, too, is very interesting to me, as it brings into my mind pleasing recollections of that Roman poet who has left such sound instructions for the welfare of young country squires, in Apollo's warning to his rash and luckless son.

On the coast of Cayenne, in South America, there is a rock of enormous dimensions. It is called Le Grand Connétable by the French, and it rises out of the ocean, at some distance from the shore, like an aquatic giant of the first magnitude. On its shelving protuberances are to be found the nests of innumerable sea-fowl. Amongst these winged explorers of the deep it is said that the tropic bird prepares for incubation and rears its young. I say, "It is said," for I have not been there. I once made the attempt, as will be seen in the sequel, but fortune failed me,—verifying the remark of Sancho Panza, "Tal vez hay, que se busca una cosa, y se halla otra,"—Sometimes we go in search of one thing, and find another.

Having hired a canoe and seven negroes in the town of Cayenne, I set off at six in the evening, and proceeded through the waters of the interior, where they flow betwixt the island of Cayenne and the adjacent continent, calculating to come out on the sea-coast about the break of day, should things go on well. It rained piteously during the greater part of the night; and I do not remember ever to have had such wretched accommodation, or to have been exposed for so long a spell to such an incessant soaking. Soon after the dawn of day, we were on the sea-coast to windward; and about ten o'clock the ebbing waters left us high and dry, upon an almost boundless mud-flat. Here we lay all day long, without any chance of returning to the shore, or of getting out to sea.

We were not surprised that everything had got wet, for during our nocturnal progress it had taken the labour of one negro to bale the water out of the canoe.

I felt grateful for a sunny day to dry our clothes, after such a night of rain. The day, indeed, was scorching. A blazing sun beat full upon us, and gave to the surrounding mud-flat the appearance of an immeasurable looking-glass. On every side of us were egrettes and herons, scarlet curlews and spoonbills, and other sea-fowl, in countless numbers, all feeding on the crabs which swarmed throughout the mud-flat. At a considerable distance from us, and far beyond the reach of shot, we counted above five hundred flamingoes, which were ranged in a straight line, putting us in mind of a file of soldiers in the scarlet uniform.

There could scarcely have been a more unfavourable time for an expedition to the Grand Connétable, as the spring tides had already set in. The turbulence and angry aspect of the returning evening tide showed us the folly and danger of proceeding onwards. Wherefore I reluctantly abandoned the idea of visiting the stupendous rock; and we took advantage of the tide of flood to regain the town of Cayenne, which we reached after another night of hardship, in a worse condition than when we first set out.

Exposure to the pelting rain on the preceding night had brought on inflammation of the œsophagus, a complaint which I had never known before. The act of deglutition became so exceedingly painful, that I was obliged to live on bread soaked in tea for three succeeding days; and even with this light food I barely escaped from using the lancet.

I now gave up all thoughts of procuring the tropic bird, as I could not wait at Cayenne for the period of neap tides, there being an American brig just on the point of weighing anchor for Paramaribo, the capital of Surinam; and I did not wish to lose the opportunity, knowing that opportunities from Cayenne to Paramaribo occurred but very rarely.

Cervantes remarks, that where one door is shut against us another is opened to us. Some six months after this, in my passage home across the Atlantic, on board the *Dee*, West Indiaman, commanded by Captain Gray, we saw phaeton sitting on the wave, within gunshot of the ship—a rare occurrence. I fired at him with effect; and as he lay lifeless on the water, I said (without any expectation of recovering the bird), "A guinea for him who will fetch the bird to me." The vessel was then going smartly through the water. A Danish sailor, who was standing on the forecastle, instantly plunged into the sea with all his clothes on, and swam towards the bird. Our people ran aft, to lower down the jolly boat, but it was filled with lumber, and had been well secured with lashings for the passage home. Our poor Dane was now far astern; and in our attempt to tack ship, she missed stays, and we were obliged to wear her. In the meantime, we all expected that the Dane had gone down into Davy's locker. But, at last, we fortunately came up with him; and we found him buffeting the waves, with the dead bird in his mouth.

I dissected it, and prepared it, and have kept it ever since; nor do I intend that it shall leave my house, as the sight of it often brings to my remembrance an occurrence of uncommon interest, now long gone by:—for it is twenty years and more since I received the tropic bird from the cold and trembling hand of our adventurous Dane.

THE CAYMAN.

"The crocodile, in fact, is only dangerous when in the water. Upon land it is a slow-paced and even timid animal; so that an active boy, armed with a small hatchet, might easily despatch one. There is no great prowess, therefore, required to ride on the back of a poor cayman after it has been secured, or perhaps wounded and a modern writer might well have spared the recital of his feats in this way upon the cayman of Guiana, had he not been influenced, in this and numberless other instances, by the greatest possible love of the marvellous, and a constant propensity to dress truth in the garb of fiction."—*Extract from* "*Lardner's Cabinet Cyclopedia;*" *Fishes*, vol. ii., p. 111.

Swainson, wholesale dealer in closet-zoology, was never in the wilds of Guiana, where the book of "Wanderings" was written. Hence any comment on the above extract were loss of labour and of time. His erroneous account of the cayman at once shows me that he never saw this animal in its native haunts.

I stop not here to tell the world how I came to incur the hostility of this morbid and presumptuous man. Suffice it to say, that formerly, in friendship (for I personally knew his worthy father), I used to give him ornithological information. But his behaviour was such that I found myself under the absolute necessity of discontinuing my correspondence with him; and this laid the foundation of that animosity which at last has induced him publicly to call in question my veracity, without fortifying his rash act with any proof whatever. Let me here inform this dealer in unsound zoology, that my veracity is the only article upon which I feel that I have a positive right to plume myself in the two small volumes which I have presented to the world. And now for the cayman—first apologising to the reader for this disagreeable though necessary prologue.

Those who have had no opportunity of examining the crocodile and cayman in the regions where they are found, may form a tolerably correct notion of them (making a due allowance for size) by an inspection of the little lizard which inhabits the warmer parts of Europe. And should they not have it in their power to travel out of England, they may still acquire a competent idea of these animals by looking at the newt, which is common in most of our gardens; for, notwithstanding the frivolous objections which Swainson has offered to the contrary, I consider these monsters of tropical climates neither more nor less than lizards of an extraordinary size, and in this the Spaniards agree with me; for, on their first arrival in the New World, seeing that the cayman was an overgrown lizard, both in form and habits, they called it *una lagarta*, which is the Spanish name for a lizard. The British, in course of time, having seized on the settlements formed by the Spaniards, soon became acquainted with the cayman, and on hearing the Spaniards exclaim *Una lagarta* when this animal made its appearance, they, in their turn, called it an alligator; for so the two Spanish words *una lagarta* sounded in the English ear. I got this information many years ago from a periodical of which I remember not the name.

The little lizard which darts at a fly on the sunny banks along the roads of Southern Europe, gives the spectator an excellent idea of the cayman in the act of taking its prey in the tropics; and, whilst he views the pretty green creature turning sharply and quickly on the ground before him, he may see in imagination the movements of the cayman on the banks of the Essequibo, after the dry season has set in.

I once fell in with a fry of young caymans on dry land near the river Essequibo. They were about a foot in length, and they twisted and turned in all directions with the agility of rabbits. One of them got entangled in the weeds. It fought fiercely before we succeeded in capturing it, and Daddy Quashi had it for his supper.

Crocodile is the eastern name, and cayman or alligator the western name for this huge lizard.

It is now high time to reject the many fabulous accounts of the crocodile. Their shedding tears, and their devouring the young ones as soon as hatched, are inventions only for the nursery fireside. Master Swainson's assertion that the crocodile "conveys its food to some hole at the edge of the water, where it is suffered to putrefy before it is devoured," may suit an infant school, but it will be rejected with a smile of contempt by any one who has paid the least attention to the anatomy of the crocodile's head. The dissector would see that the mouth of this reptile is completely formed for snatch and swallow. Now, any common observer of the habits of animals with a mouth so formed must know, at first sight, that these animals never eject food which has once entered the mouth. Down the throat it goes immediately, unless there be some impediment, as in the case of a stag's horns. Supposing for an instant (but no one except a second Master Swainson could suppose such a manifest absurdity) that the crocodile does really place his food in a hole until putridity commences, pray how is the animal to secure it from his ravenous fellow-crocodiles? or by what process is he to curb his own hunger until the lardered morsel be ready for deglutition? The old hackneyed account of crocodiles devouring their own young when newly-hatched is really unworthy of refutation. Depend upon it, no such unnatural banquet takes place; for the crocodiles are never reduced to so abhorrent a necessity. The rivers which they inhabit abound with fish, both large and small, and on these the crocodiles feed, as well as on fresh-water turtle. And as to the vultures watching individuals of the family of crocodile until they have laid their eggs, and then devouring them, it is an ancient fable, which, like Don Quixote's library of romances, ought to be thrown to the fire in the court-yard, and there burnt with the rest of the trash. I can positively affirm that neither in the Essequibo nor in the Oronoque did I see one single solitary attempt of a vulture to invade the spot where a cayman had deposited her eggs. The cayman, in fact, may perform her task with impunity, whilst hundreds of vultures are standing motionless on the branches of a tree hard by, where they remain till hunger bids them be stirring, and then they all take wing and fly away in quest of carrion. Had they been watching the cayman's treasures, they would have descended from the tree, and not have ascended in aërial flight.

The cayman not unfrequently lays its eggs in a heap of dry leaves. The eggs afford good nourishment to man. They are about the size of those of a turkey, perhaps somewhat larger. The outside of the shell is rough, and of a dirty-white colour. Probably it is quite white when first deposited.

This formidable animal, being able to exist either in water or on the land, may be styled amphibious to the fullest extent of the word. Master Swainson, notwithstanding his "compassion for the poor animals," and his interested wish to make his readers believe that they are of a timid nature, would have found himself awkwardly situated had he been in my position when I attacked the cayman mentioned in the "Wanderings,"—the Indians positively refusing to drag it out of the water, until I had placed myself betwixt them and danger.

I once saw a cayman in the Oronoque thirty feet in length, and another of the same size in the Essequibo. This animal is an inhabitant of the fresh waters, although occasionally he may be found in the mouths of rivers where the water is salt; but when this occurs, we may conclude, to a certainty, that he has been carried down the descending flood against his will.

Whilst I was in Guiana, a cayman was killed in the salt water of the Essequibo, just opposite to the island of Waakenham.

We formerly learned from our nursery-books that animals of the crocodile family have skins hard enough to turn a musket-ball. This requires explanation. No part of the cayman's body is absolutely proof against a musket-ball. Let it be recollected, that in shooting at one of these reptiles, we stand invariably above it, so that the ball from our gun, after striking the animal obliquely, flies off, and merely leaves a contusion. Although the back is very hard, the sides are comparatively tender, and can be easily pierced through with an ordinary penknife. The tail is not near so hard as the back, and, singular to tell, the tail of the smaller kind, about five feet in length, is much stronger than that of the larger species.

In a creek up the river Demerara, I could any day see an adult cayman of this smaller species. It had chosen for its place of abode a kind of recess amongst the flooded trees bordering on the creek; and it was so awake to danger that I could not get a shot at it. After trying various and unsuccessful schemes to capture it, I took a curial at last just large enough to hold two people. I squatted in the prow, and Daddy Quashi steered it without making any stir in the water. Having cocked my gun, and placed it against my shoulder in a position ready to fire, the curial was allowed to drift silently down the stream, when, just as we got opposite the place where the cayman was lurking, I pulled the trigger and shot it. The whole of the afternoon was spent in dissecting it, and I found it fully as tenacious of life as the land-tortoise itself.

The mouth of the cayman is furnished with a most formidable row of teeth in each jaw, but they are peculiarly shaped for snatch and swallow. He has no grinders; hence no laceration of the food can take place in the mouth. But a contest will often ensue amongst the congregated reptiles, when the morsel is too large for deglutition; and then each individual snatches at what it can get, and pulls away the piece. The nose of the cayman forms a pretty rotund figure. This, together with the rough protuberance which guards the eye from above, may be modelled by my new process, and rendered as elevated as it appeared during the life of the animal. When Swainson tells us that the snout of crocodiles and caymans is unusually depressed, I know immediately that he has been at his wonted employment of examining a dried skin.

In dissecting a cayman for preservation, you may separate the tail at every other joint. This division renders the process extremely easy. The head also may be divided from the body, and replaced afterwards with great success. After the whole of the dissection is finished, you steep the skin for about a quarter of an hour in the solution of corrosive sublimate, and then, by means of sand, you proceed to restore the form and feature which the animal possessed in life.

An adept in this new mode of preparing zoological specimens for museums (see the "Essays") would be enabled to bring home an alligator very superior indeed to those hung up in apothecaries' shops during the life of Shakspeare—"An alligator stuffed." My cayman is now in as good condition as it was on the day in which I dissected it; and it will set decay at defiance for centuries to come, provided no accident befall it.

I have mentioned briefly in the "Wanderings," an account which the governor of Angustura gave me of the boldness and ferocity of the cayman. I may here repeat the story somewhat more at length.

In the year 1808, I carried Lord Collingwood's despatches up the Oronoque to the city of Angustura, where the Spanish governor, Don Felipe de Ynciarté, resided. I corresponded with him for some time afterwards. He was a soldier, of vast information in the natural history of the country, and had been a great explorer in his time. He showed me a large map of Spanish Guiana, having made it from his own personal survey of those regions in early life. On the breaking out of the revolutionary war, which, according to Canning's rambling speculation, was to give rise to a thousand republics, this true Spaniard fought for King Ferdinand VII. But fortune having declared against him, he left the Oronoque, and retired to the island of Santa Cruz, where death closed his mortal career.

The Spaniards, who have more of pleasure than of Puritanism in their composition, think it no harm, after they have performed the sacred duties of the day, to enjoy a fine Sunday evening, in gay attire, on the Alameda or public walk, where there is generally a band of music. I had resorted to the walk attached to Angustura, and was in company with Governor Ynciarté, when he stopped on reaching a certain place, and begged my attention to what he was going to relate. "Don Carlos," said he to me, "mark the opening which leads to the Oronoque. I was on this very spot, a great number of the inhabitants being present, when there suddenly came out of the river an enormous cayman. It seized a man close by me, and carried him off to the water, where it sunk with him to appear no more. The attack was so sudden, and the animal so tremendous, that none of us had either time or courage to go to the unfortunate man's rescue." This certainly could not have been one of Master Swainson's "slow-paced and even timid animals," which "an active boy armed with a small hatchet" might easily have despatched. In 1824, I read in one of the newspapers at New York, a detailed account of the death of one of our consul's sons. The youth would bathe in the river Madalena, in opposition to all that the Spaniards could say against so rash an act, on account of the numbers and ferocity of the caymans there. He had not fairly entered the water, when he was seized by a cayman and disappeared for ever. How these dismal exhibitions of cayman ferocity throw utter discredit upon what has been supplied to Lardner's "Cabinet Cyclopædia," on Fishes, vol. ii., p. 111, by Swainson! Had he ever seen anything of the habits of the cayman, surely he would have paused before he informed his readers in Lardner, "We often met with them [caymans] in the same country as Mr Waterton [How comes this? Swainson was never either in Spanish or in Dutch Guiana, in which territories only I fell in with the cayman], but they were so timid that had we been disposed to perform such ridiculous feats as that traveller narrates, our compassion for the poor animals would have prevented us." I have now given, as far as I am able, a true history of the cayman, without any exaggeration, quite free from Swainson's base accusation of my "constant propensity to dress truth in the garb of fiction;" and I stake what little honour and credit I have hitherto gained with the public on the correctness of it.

Should the reader believe me on my word, and then compare my account of the cayman with that which Swainson wrote for Lardner, he must evidently come to the following conclusion, viz.—that Swainson, when he wrote his account of this reptile, was either totally unacquainted with its habits and economy, or that he wilfully perverted them, and made out the cayman to be a "slow-paced and even timid animal" in order to be revenged on me, who had described it as swift, and one of extraordinary ferocity; for, be it known that in 1837, I found myself under the necessity of writing to Swainson a very pungent ornithological letter, which was printed. He never answered this letter; and I thought that I had done with him altogether, till in 1839, whilst I was in Italy, out came Lardner's volume on Fishes, containing the sweeping extract which I have transcribed at the head of this paper. Swainson was then about to take his final departure to New Zealand. Steam will soon convey him a copy of this. I call upon him to contradict the statements which it contains, or to acknowledge the truth and the propriety of them.

SNAKES.

"NEMO ME IMPUNE LACESSET."

WERE I to offer a treatise in defence of Nero, or of Herod, or of our own Harry the Eighth, perhaps, I should not astonish my reader more than I am about to do, in an attempt to advocate the cause of snakes. Possibly, the sad affair in Paradise, where the wily serpent acted so conspicuous a part, may have entailed upon its family, the execration of mankind. Certainly, notorious is the fact, that the whole tribe of serpents, great and small, noxious or innoxious, in all parts of the known world, can find no mercy at the hand of man. A Bengal tiger, crouching in the jungle, is not more dreaded by an eastern traveller, than our little English adder, basking on a sunny bank, is feared by those who go to gather primroses. In fact, all nations, civilized or rude, are unanimous in asserting the malignity of snakes: whilst dictionaries are ransacked by writers, for words of sufficient potency, to place these pretty reptiles in an evil point of view. When I was in the forests of Guiana, I could never coax an Indian to approach a snake with composure, although I showed him that no danger was to be apprehended, if he only went the right way to work. History teems with the evil doings of snakes. Poor Orpheus lost his beautiful Eurydice on their wedding-day, by the bite of a snake, which stung her in the heel as she was dancing on the lawn with her bridesmaids. Laocoon and his sons were squeezed to a mummy by two enormous sea-serpents. Cleopatra, Queen of Egypt, having lost her sweetheart and her diadem, procured a snake to end her insupportable misfortunes. All Denmark, as we read in Shakspeare, was persuaded that her king had died from the venomous sting of a snake. A Roman legion fought and slew a tremendous serpent in the wilds of Africa. We are told, that, formerly, there lived a family by the name of Gorgon, several young ladies of which had snakes on their heads in lieu of hair; and that these damsels were looked upon with very great horror, wherever they went. Snakes, in these later times, are by no means in favour with man. I was once on board a Yankee brig, from Cayenne to Paramaribo. The captain had some great grudge or other against the English; for, whenever he saw a vessel in the distance, he would take it for a British cruiser, and remark, "There goes the old serpent, from whose sting, thank Heaven, we are now for ever free." I have adduced these instances, out of many, to show that snakes have never been brought forward for admiration; but, on the contrary, to impress mankind with the idea that they are devilish and dangerous things, always to be shunned, or killed, as occasion may offer.

With this little introductory preface, I now propose to offer a few remarks on the serpent family. Possibly, they may be of use to those young naturalists who go in quest of zoological adventures, either at home or abroad. Putting aside hard names, and never-ending classification, let us divide all snakes whatever into two separate families, and no more: viz. those which have poisonous fangs, and those which have none.

The poisonous fangs are invariably on the upper jaw, but they are not fixed on the bone. They are always curved downwards, like the blade of a scythe. There is a little opening on the convex part near the point. From this opening to the point, which is as sharp as a needle, the fang is quite solid; but, hollow from it to the root. This point may aptly be styled the pioneer of death, as it makes the wound into which the poison of the irritated serpent flows through the hollow part of the fang. It is the fatal weapon which causes a snake to be so much dreaded, and condemns the whole race to universal detestation; although, in fact, not one snake in ten has been armed by nature with the deadly fang. Still, as all snakes are more or less of the same form, especially when viewed at a distance, every individual is held in horror:—the guiltless suffering equally with the guilty. Armed with a poison-fang, the snake, at one single stroke (never repeated, as far as I could see), avenges itself on the unfortunate animal which has trodden upon it, or has put it in bodily fear, by disturbing its repose. When not in readiness to inflict a wound, these two poison-fangs assume a recumbent position, so as not to interfere with the action of the ordinary teeth, which are firmly fixed, are very small, and most admirably formed to seize their prey, and to send it down into the stomach. All snakes have these teeth, used only for snatch and swallow; as mastication, or grinding of food in the mouth, cannot be performed by snakes. The prey is laid hold of by these crooked little teeth, in the first instance, after which, it is slowly swallowed, without having undergone any change since it entered the mouth of the serpent. At the root of the two poison-fangs are smaller ones, but much too pliable and tender to inflict a wound. They appear to be a provision by nature, in case that accident or disease should render the mature fangs unserviceable. Take away these mature fangs, and immediately the snake is rendered harmless.

Those amusing knaves who profess to be serpent-charmers, always take care to have these fangs extracted, before they exhibit their wonderful powers in the presence of an assembled multitude. My life upon it,—none but a devil incarnate would dare to put his hand into the mouth of a snake possessing these fangs, uninjured. A bite would be the certain consequence; and either death or excruciating pain, the result. Snake-charmers, taking advantage of the universal horror in which all serpents are held, contrive to manage the thing to a nicety, either by extracting the poisonous fangs, or by making free with those snakes which they have ascertained have no fangs at all. In both cases, those impudent rogues, known as snake-charmers, are perfectly free from danger; and, as they find by experience that snakes are very docile animals, they easily train them to their own liking,—until they become as playful and familiar as kittens.

It would be difficult to demonstrate, why poisonous fangs have been given by nature to some snakes, and denied to others. If for the purpose of defence,—then, we might look for them in all snakes. So far as I have been able to observe, they are seldom brought into action by the snake which possesses them. Snakes are not revengeful; neither are they prone to be the aggressors. I would hazard a conjecture, that snakes, in capturing their food, very seldom, if ever, make use of the poison-fangs: because a snake without these fangs can just as easily secure its prey as a snake with them. I leave this knotty question to be unravelled by the clever zoologists of our own times;—hoping that they will be more successful than they have been in their labours to convince us that birds do really anoint their plumage with the matter contained in the oil-gland on the rump. Firstly, the word "oil-gland" is a misnomer. Secondly, none of them as yet (save the American, who is not to be trusted) have ever been able to detect the smallest particle of the said matter on the plumage of birds. Thirdly, all oily substances whatever are prejudicial to the texture of feathers. And fourthly, some tribes of birds have no gland given them by nature. Well; but, be this as it may, the supposed oil-gland of birds, or say, the use of it, is still on the anvil. *Grammatici certant*, &c. Let me proceed with the snakes.

In the damp and gloomy forests of Guiana, are to be found some of the largest snakes as yet discovered. There, basking in the noonday sun, wherever a discontinuance of the dense foilage will admit its rays to enter, these magnificent monsters enjoy an undisturbed repose during the day. When night sets in, they leave their favourite haunts, and silently glide forth in quest of food.

The nauseous smell or fœtor, which is said by some authors to come from the bodies of these monster snakes and to infect the atmosphere, is fabulous. The whimsical account of it deserves a place on the shelves of a nursery library. I have never perceived anything of the sort, although it has been my good fortune to come in contact with giant serpents. Did such a fœtor really exist, to the extent which authors have described, other animals could not live with any comfort under its suffocating influence; and it would be a salutary warning to them that an enemy was in the neighbourhood. Their precipitous retiring from it would be the means of starving the serpent to death, for want of ordinary nourishment. Once I passed a whole night (see the "Wanderings") in the same abandoned house with a living Coulacanara snake of extraordinary size. No bad nor nauseous smell infected the apartment during any portion of the night.

Most lovely are the colours of some snakes when exposed to the rays of a tropical sun; but they fade in death, and cannot possibly be restored by any application known at present,—saving that of paint;—which, when compared with nature's inimitable tints, and applied by the most scientific hand, is but a mean and sorry substitute. I can restore the exact form and features of dissected animals. But there I stop. Scales of snakes, and those of fishes, after death, must infallibly lose their metallic splendour; do what you choose, a skin will assume the hue of parchment. Could these sad changes by the hand of death be obviated with success, then indeed, our specimens for museums would be as though in life, saving the loss of motion. But, on viewing them, after all has been done that can be done, we are forced to exclaim with poor Margaret, in Mallet's inimitable ballad,

"That face, alas! no more is fair,
That lip no longer red;
Dark are my eyes, now closed in death,
And every charm is fled."

All snakes in gliding onwards, take a motion from right to left, or *vice versâ*—but never up and down—the whole extent of the body being in contact with the ground, saving the head which is somewhat elevated. This is equally observable both on land and in water. Thus, when we see a snake represented in an up and down attitude, we know at once that the artist is to blame.

The common and accepted notion that snakes can fascinate animals to their destruction by a dead-set of the eye at them, is erroneous and ought to be exploded. Snakes, in fact, have no such power. Choose what position you please, either exactly in front of a serpent, or on either side of it, and its eye will appear as though it were looking directly at you. Take a clear view of it, and you will see that it does not move. It has been placed by nature under a scale, similar in composition to the scales of the body; and when the snake casts its slough, this scale comes away with it, and is replaced by a new one on the new skin. The cast-off slough always appears inside out. I am not a believer in the evil eye of snakes. Their eyes are very beautiful; and no doubt, they would be much admired, did the beholder lay aside his prejudices and consider that the snake before him has no intention to create alarm, nor to meditate a work of mischief.

In no instance have I seen a snake act on the offensive. But, when roused into action by the fear of sudden danger, 'tis then that, in self-defence, a snake will punish the intruder by a prick (not a laceration) from the poison-fang, fatal or not fatal, according to its size and virulence. *Noli me tangere*—do not touch me with intent to harm me, is a most suitable motto for a snake. This has been my opinion of snakes ever since I have had anything to do with them. The concluding adventure in this essay will show the reader that I have not been labouring under a delusion.

Our own snakes, here in England, are scarcely worth notice, so far as their venom is concerned. One species, which I designate under the name of adder, is a harmless little fellow, and very useful during the summer months in clearing the fields of mice. I say summer; for when the heats have passed away it retires underground, there to slumber in profound repose until the invigorating sun of April warms it into action. Our other snake is the well-known viper, armed with two small poison-fangs, which, by the way, are very seldom used. The blind worm, wrongly so called, is harmlessness itself. The young naturalist, in his rambles through the country, has but little to apprehend from the viper. He may pass close to one, a thousand times, and if he does not actually put his foot upon it, he may be quite sure that the viper will never use its fangs against him, or even show them by way of menace.

When we consider the immense extent of tropical America, and view its endless woods, we are forced to admit that snakes are comparatively few. I have seen more monkeys in one day, than I have found snakes during my entire sojourn in the forests. When I did fall in with them (and they were not wanted for dissection), whether they were poisonous or harmless, I would contemplate them for a few minutes ere I proceeded, and would say, "Gentlemen of rainbow-colours, be not alarmed at my intrusion. I am not come hither to attempt your lives, or to offer wanton molestation. This boundless territory affords an ample range to both yourselves and me. Our interests can never clash, as though we were in commerce: so, pray enjoy yourselves, and let me do the same."

I find it somewhat difficult to give instructions by the pen, how to distinguish a snake with fangs from one without them as you are travelling through the woods. Many of the former present an appearance which clearly shows their nature:—the Cerastes of Egypt, to wit. Its flat head, its scales—somewhat in colour like to the fallen leaves—its thick and short form, at once give warning, that, if the traveller should wish to take it, he must go very cautiously to work. The labarri, too, of Guiana, is easily known by its colour and appearance, and warns us how to act. Some, again, are of so dubious a composition, that you are at a loss whether to consider them innocent or dangerous serpents. The whip-snakes, that is, long and slender snakes not unlike the thong of a whip (hence their name), throughout the whole of Guiana, may be handled with perfect safety; and I have no doubt in my own mind that all snakes of this make, no matter what region they inhabit, are harmless in every sense of the word. I was once put to my wit's end, as to whether the snake before me was armed with poison-fangs or not. It lay reposing on the branch of a bush about four feet or so from the ground, and was of marvellous beauty. It showed a vivid green throughout the whole of its body, which was chequered with markings of ivory white. This puzzled me much; and for the life of me, I could not pronounce, whether it were of good or of evil parentage. So I laid hold of it with all possible caution. It proved to be eight feet long, and venomous.

Confiding in the notion that snakes never use their poison-fangs, except when driven to extremities, I would rove in the forests, day after day, without shoes or stockings, and never consider myself in danger from them.

Perhaps no part of the known world, not even the wooded swamps of Senegal in Africa, produces such a show of magnificent serpents, as the region of South America extending from the river Amazon to the Orinoco. This region I have explored with uncommon pleasure, care, and satisfaction ; and did inclination incite me, I could produce many volumes of amusement and instruction on its zoological treasures. Oh, the beauty, the grandeur, the innocence and supposed malignity of serpents with which I have come in contact during my stay in the regions beyond Demerara and Essequibo !

I think I have mentioned in a former little work, that when I was in Angustura, the capital of the Orinoco, a Spaniard showed me part of a serpent's skin which, judging from its amazing thickness, could not have been less than seventy feet in length. The colonists have appropriately given to this serpent the name of matatoro, or bull-killer.

Let me here remark, that, properly speaking, all snakes are boa-constrictors. Constrictor sounds learnedly to an ordinary ear. It is a Latin word, derived from constringere, to bind ; and when joined with boa it signifies a snake which entwines the folds of its body round the captured prey. I have seen a very small snake in the act of compressing a little bird to death. Let one anecdote suffice. Some five-and-thirty years ago, my friend the late Mr Edmonstone and myself were in the forest, about a mile from his house in Mibiri Creek, a tributary stream to Camouni Creek, which flows into the river Demerara. Finding himself more inclined for rest than for ranging (which is often the case in hot countries), he said he would go home !—and so we parted company. Hearing the report of his gun a short time after he had left me, I conjectured that he had met with something worthy of his notice. As I was returning to breakfast by the same path along which he had retired, I saw a common yellow-breasted shrike hanging from the stump of a tree. Under the impression that he had fixed it there to attract my notice, I went up to the stump, and quietly took hold of the bird. A hiss immediately announced the nature of the case. A young coulacanara snake, not more than three feet long (and so like in colour to the stump on which it lay that I had not distinguished one from the other), had caught the bird, and twisted itself around it, and was holding it prisoner. The skin of this snake is now in one of my drawers.

This interference with snakes may be deemed rash and condemnatory by a reader safe and snug at his own fireside. But custom, they say, is second nature; and I can assure him that, generally speaking, there is very little to be apprehended in the way of danger during a sojourn amongst the wild beasts of the forest. Snakes especially are of so retiring a nature that they may be considered as presenting no obstruction during your journey onwards. Formerly, by constant habit, I would just care as little about a snake as our brave warriors cared for the bomb-shell whizzing through the air at the siege of Sebastopol. In fact, the thought that I was to lose my life through the venom emitted from the poison-fang of a snake, never once entered my head.

We have no vipers in this neighbourhood, but adders are plentiful within the park wall, where I encourage and protect them. I love to see them basking on a dunghill, or catching the meridian rays of our short summer's sun on the southern bank of a hawthorn hedge. Sometimes they will ascend into the trees to the height of twenty feet.

I despair of persuading my neighbours to enter into these feelings. They seem to have a constitutional antipathy against all crows and magpies, jays and hawks, and snakes. A keeper who can massacre the greatest number of these interesting denizens of earth and air is sure to rise the highest in his employer's estimation.

As most travellers in quest of natural history probably have not been sufficiently versed in the habits of serpents to distinguish those which ought to be avoided from those which may be approached with perfect safety, they take the alarm at every snake which they see; thus holding the whole family in utter abhorrence. And this, by the way, is natural enough when we reflect that serpents in general have a great affinity to each other, so far as appearance and habits are concerned.

Whilst passing through our own fields we can easily distinguish the lordly bull from the rest of the herd; and we prudently keep at a proper distance. Again, in traversing a village, we at once know the surly mastiff from the watchful sheep-dog; but this is not the case with regard to snakes. When viewed at even a short distance they may all be poisonous or all harmless to the eye of an inexperienced rover.

I have penned down these few notes on the snake-family, not to intimidate the ardent young naturalist, nor to make him fancy that his life is in perpetual danger whilst he is traversing the wilds in far distant countries. On the contrary, I wish to encourage him in his praiseworthy career.

Our histories of Snakes are as fabulous and incorrect as those of monkeys. Take the following quotation, for example: "All along the swampy banks of the river Niger or Oroonoko, where the sun is hot, the forests thick, and the men but few, the serpents cling amongst the branches of the trees in infinite numbers, and carry on an unceasing war against all other animals in their vicinity." Romantic and absurd assertion! I myself have been, for weeks together, in those swamps of the river Oroonoko, not merely in an Indian canoe, nor under the protecting canopy of a planter's tent-boat, but absolutely barefooted and up to the knees in water, ranging in anxious expectation, with little fear of danger. The leeches, larger than those of Europe, were troublesome at times; for they took a fancy to my legs, and caused me to keep a sharp look-out. But as for snakes, I seldom saw them: so I concluded that their carrying on "an unceasing war against all other animals, and their clinging amongst the branches of the trees in infinite numbers," was an imaginary thing, which had no existence saving in the productive brain of him who had given us the strange account. Again, we have stories, as old as the hills over which we roam, of snakes sucking cows, and passing the night in ladies' bedrooms, so that they might conveniently obtain a supper on human milk. Believe me, such absurdities as these deserve no credit, and they only tend to mar our history of the serpent-family. No serpent has ever yet been discovered, or ever will be discovered, with a mouth so formed as to enable it to suck the teats of cows or breasts of women. In days gone-by, they tell us, that a king of Elis kept three thousand oxen in one stable, which had not been cleaned out for the space of thirty years. The stench becoming insupportable, a well-known man, by the name of Hercules, contracted with the king to clear away the filth. Finding the job more than he could manage, he turned the river Alpheus through it, and succeeded admirably. Would that some modern contractor could be found to scour our own departments in zoology! But if he be engaged, and clean water be required, he must not come into our manufacturing districts to look for it. The rivers there (that of once merry Wakefield, to wit) have now become so filthy and polluted, that, on looking at the stream, you might fancy it had its source from under graves and charnel-houses.

In taking a retrospective view of what I have written on the nature and habits of snakes, as it differs widely from the accounts which we have already received, I really hesitate to lay these notes before the public. May the following little adventure assist me in obtaining the reader's confidence.

It took place, some three or four years ago, in the rich and smoky town of Leeds.

There lived, in the interior of the United States, a country blacksmith, by name Vangordon. One day, having been seized, not by a ferocious rattlesnake, but by a vehement desire to see the land of his old grandfather Bull, of whom he had heard so many strange accounts, as how that the old whimsical gentleman fancies himself rolling in riches, although actually in debt to the incredible amount of eight hundred millions of pounds sterling, &c. &c., he resolved to cross the great pond which intervenes betwixt the pastures of Mr Bull and the interminable regions of his grandson Jonathan. But the cents were wanting. However, after much cogitation he bethought himself of a project, which probably had never entered into the head of mortal man since the day of Noah's flood. He calculated that, as his grandfather Bull had no rattlesnakes in his pastures at home, the old gentleman perhaps would like to see what kind of animals they really are when alive and in vigour. So by hook and by crook, this enterprising son of Vulcan actually managed to capture from thirty to forty rattlesnakes; and having placed them carefully in a box which he had got made for the purpose, he set sail with them from New York, on one fine summer's morning, for the land of his ancestors, where he exhibited them with profit to himself and with astonishment to all who went to see them. One of these serpents having died in Liverpool, he most obligingly sent it to me for dissection. As things turned out, nothing could have been more acceptable, as you shall see anon. There had been a story current, above one hundred years old (invented, no doubt, by some anxious old grandmother to deter little children from straying into the back woods), of a boot and rattlesnake. It seems that the poison-fang of the snake, having pierced through the boot, came in contact with the leg of the wearer, who died in a few minutes. The snake then glided away, leaving the point of its fang in the boot. Some time after this melancholy event, another man, in trying on the boot, got a prick from the fang, and, after having experienced most excruciating pain, gave up the ghost. A few weeks after this, a third man, having bought the boots, he put them on, and perished in like manner. These sudden and extraordinary deaths caused an examination of the boots—when, lo and behold! the broken fang of a rattlesnake was discovered sticking in the leather. This most absurd and impossible fabrication was revived a few years ago, was brought to this country, was declared to be true, was printed, and was believed by many of our learned fathers in zoology. I protested vehemently against it, and I pronounced it to be a barefaced Yankee hoax. But my voice was too feeble to be heard, or not sufficiently important to engage attention. And now to the rattlesnake which I had received from Mr Vangordon. Whilst I was engaged on the head, my knife slipped sideways, and instantaneously brought my thumb in contact with one of the poison-fangs, which entered deeply into the flesh, and caused the blood to flow. It is almost needless to add that the wound healed, just as an ordinary wound would have healed, without producing one single unfavourable symptom. Some time after this, a few professional gentleman in Leeds, wishing to test the effects of the wourali poison with the venom of a rattlesnake, arranged with Mr Vangordon to exhibit his imported serpents; and an invitation was sent to me, requesting that I would attend, and bring with me some poisoned arrows. We all met at the house of our physician, Doctor Hobson, who had procured a few Guinea pigs and rabbits for the occasion. Aware that Mr Vangordon's box was not well adapted for a scientific examination of the snakes, I had sent on before me the large glass case which had been made to contain my great ant-bear. Whilst the assembled company seemed at a loss to know how the rattlesnakes were to be transferred from one cage to another, I stepped forward and volunteered my services, having long been of opinion that a snake in a box is not so dangerous as a "snake in the grass." "Gentlemen," said I, "whenever we have to deal with wild beasts or with serpents, all depends upon nerve and tact. Now, on this occasion, if you will only be spectators mute and motionless, the project which I have determined upon in my own mind will be carried out with ease and with safety." Having first opened the door of the ant-bear's cage, in order to receive its new tenants, I cautiously approached Vangordon's box. Scarcely had I lifted up the lid when one of the serpents, wearied no doubt with long imprisonment, glided about half its length through the opening before it. The company instantly rushed out of the room, as though the apparition of Death were present amongst them. They brought to my mind those lines of Scotland's immortal poet, "when out the hellish legion sallied," away went Tam O'Shanter. In the meantime, Dr Hobson, with his wonted presence of mind, had gently pressed down the lid of the box upon the back of the snake, which, with a little help on my part, was easily coaxed into the prison whence it had wished to escape. The remainder of the story is soon told. Our professional gentlemen, who had fled from the scene of apparent danger, returned into the room, after having been assured that all was right.

I now approached the box, and quietly opened the door. On this the snakes began to move their rattles, but kept their mouths quite shut. Fearing no harm, I softly placed my hand behind the head of the snake which was nearest to me, and silently transferred it to the other cage. The remaining seven-and-twenty were soon disposed of in a similar manner. All that I have to add is, that the rabbits and the guinea pigs expired in a few minutes under the influence of the wourali poison, but that those which were bitten by the rattlesnakes struggled with death for a longer time. They sank at last, with a few convulsive struggles.

Mr Taylor, in his paper which appeared in "The Magazine of Natural History" (vol. p. i. 529—541), says,—"I have repeatedly endeavoured to verify Mr Audubon's account of the rattlesnake ascending trees, which has been confirmed." Now, a great part of that account by Audubon consists of the description of a rattlesnake chasing a squirrel up and down a tree. Does Mr Taylor wish us to understand that this part of the account has been confirmed by him? I ask this necessary question, because I cannot suppose that Mr Taylor would spend his time in repeatedly endeavouring to verify the simple fact that rattlesnakes ascend trees. The fact is already as well established as is the existence of the rattlesnake itself. The merest novice in zoology must know that the muscular power in the bodies of snakes enables them to ascend trees. I anxiously wait for Mr Taylor's reply. If he has actually seen a rattlesnake chasing its prey up and down a tree, then I will own that I have hitherto been completely in the dark with regard to snakes; and that all the time which I have spent in studying their habits, while I was in the forests of Guiana, has been unprofitable and of no avail. If, on the contrary, Mr Taylor informs us that his experience goes no further than to verify the fact that snakes do get up into trees, then I take the liberty to remark that he has told us nothing new.

I have been in the midst of snakes for many years: I have observed them on the ground, on trees, in bushes, on bedsteads, and upon old mouldering walls; but never in my life have I seen a snake pursue a retreating prey. I am fully satisfied, in my own mind, that it is not in a snake's nature to do so. A snake would follow its retreating prey in a tree with just about as much success as a greyhound would follow a hare through the mazes of a thick wood. Snakes are always in a quiescent state just before they seize their prey; and their mode of capturing it is by an instantaneous spring, consisting of a bound which never exceeds two thirds of the length of the reptile's body.

As we are now on snakes, and as Mr Taylor informs us that the names of his birds and animals "are corrected from the splendid work of Audubon," I beg leave to draw his particular attention to plate 21 of that work. It represents a rattlesnake attacking a mocking-bird's nest. Mr Swainson, in his critique upon it in "The Magazine of Natural History" (i. 48, 49), seems lost in admiration at its excellence. He says (after lauding plate 17), "The same poetic sentiment and masterly execution characterises this picture." "Pictoribus, atque poetis," &c. The mouth of the rattlesnake is wide-open, and the fangs are the first things to attract the inspector's notice, being by far the most conspicuous feature in it. There they are on elephant [folio], with their points curved *upwards!* The artist, in his notes on the rattlesnake, addressed to Thomas Stuart Traill, M.D., and inserted in Jameson's "Journal," says, that he confined a rattlesnake for three years in a cage. Did he never once get a sight of the fangs all that time? I will allow anybody the range of the whole world: and if he can produce one single solitary fang of any snake, great or small, with the point turned *upwards*, I will submit to be sent to the treadmill for three years. All fangs of snakes are curved somewhat in the shape of a scythe, with their points *downwards;* and we see clearly that their position in the mouth, and the manner in which they convey the poison, require that their points should be curved downwards.

Mr Taylor further informs us that "black snakes are called racers, from their occasionally chasing men with great ferocity." Chase argues pursuit and retreat: now, I affirm that snakes never chase men, or, indeed, any other animals.

It often happens that a man turns round and runs away when he has come suddenly upon a snake,—"retroque pedem cum voce repressit;" while the disturbed snake itself is obliged through necessity (as I shall show by and by) to glide in the same path which the man has taken. The man, seeing this, runs away at double speed, fancying that he is pursued by the snake. If he would only have the courage to stand still, and would step sideways, on the snake's coming up to him, he might rest secure that it would not attack him, provided that he, on his part, abstained from provoking it. I once laid hold of a serpent's tail as it was crossing the path before me, and then, as might be expected, it immediately raised itself and came at me, and I had to fight it for my pains; but, until I had seized its tail, it showed no inclination whatever either to chase me or to attack me. Had I been ignorant of the habits of snakes, I should certainly have taken myself off as soon as I perceived that it was approaching the place where I was standing; and then I should have told everybody that I had been pursued by a serpent, and had had to run for my life. This snake was ten feet long.

In 1820, on my way to the interior of Guiana, I accompanied Mr

President Rough to the hospitable house of Archibald Edmonstone, Esq., in Hobbabba Creek, which falls into the river Demerara. We had just sat down to breakfast. I was in the act of apologising for appearing barefoot and in a check shirt, alleging, by way of excuse, that we were now in the forest, when a negro came running up from the swamp and informed us that a large snake had just seized a tame Muscovy duck. My lance, which was an old bayonet on the end of a long stick, being luckily in a corner of the room, I laid hold of it in passing, and immediately ran down to the morass. The president and his son followed; and I think that Mr Edmonstone and his late lamented brother joined them. As the scene of action was within a few yards of the ground on which they stood, they had a full view of all that passed, from the commencement of the fray up to its final close. A number of trees had been felled in the swamp, and the snake had retreated among them. I walked on their boles, and stepped from branch to branch, every now and then getting an imperfect sight of the snake. Sometimes I headed him, and sometimes I was behind him, as he rose and sank, and lurked in the muddy water. During all this time, he never once attempted to spring at me, because I took care to manœuvre in a way not to alarm him. At last, having observed a favourable opportunity, I made a thrust at him with the lance; but I did it in a bungling manner, for I only gave him a slight wound. I had no sooner done this, than he instantly sprang at my left buttock, seized the Russia sheeting trousers with his teeth, and coiled his tail round my right arm. All this was the work of a moment. Thus accoutred, I made my way out of the swamp, while the serpent kept his hold of my arm and trousers with the tenacity of a bull-dog.

As many travellers are now going up and down the world in quest of zoological adventures, I could wish to persuade them that they run no manner of risk in being seized ferociously by an American racer snake, provided they be not the aggressors: neither need they fear of being called to an account for intruding upon the amours of the rattlesnake (see Jameson's "Journal" for June, 1827), which amours, by the way, are never consummated in the manner there described. The racer's exploits must evidently have been invented long ago, by some anxious old grandmother, in the back woods of the United States, to deter her grandchildren from straying into the wilds. The account of the rattlesnake's amours is an idle fabrication as old as the hills. When I was a lad, it was said, how that, in the plains of Cayenne, quantities of snakes were to be seen knotted together, and how that, on the approach of man, they would immediately dissolve company, and make the rash intruder pay for his curiosity far more severely than Diana of old made Actæon pay for an ill-timed peep. She merely changed the hunter into a stag: they chased the man, and barbarously stung him to death.

When a man is ranging the forest, and sees a serpent gliding towards him (which is a very rare occurrence), he has only to take off in a side direction, and he may be perfectly assured that it will not follow him. Should the man, however, stand still, and should the snake be one of those overgrown monsters capable of making a meal of a man, in these cases, the snake would pursue its course; and when it got sufficiently near to the place where the man was standing, would raise the fore-part of its body in a retiring attitude, and then dart at him and seize him. A man may pass within a yard of rattlesnakes with safety, provided he goes quietly; but should he irritate a ratttlesnake, or tread incautiously upon it, he would infallibly receive a wound from its fang; though, by the by, with the point of that fang curved downwards, not upwards. Should I ever be chased by a snake, I should really be inclined to suspect that it was some slippery emissary of Beelzebub; for I will forfeit my ears, if any of Dame Nature's snakes are ever seen to chase either man or beast. They know better than to play pranks, which the dame has peremptorily forbidden.

In the village of Walton there is a cross road known by the name of Blind Lane. One summer's evening, as an old woman, named Molly Mokeson, was passing up the causeway in this lane, a man, by name Wilson, saw a snake gliding onwards in the same direction.

"Molly," said he, "look! there 's a snake running after you." She turned her head to see what was the matter; and, on observing the snake approaching, fear "seized her withered veins." After getting some twenty yards farther up the causeway, she took refuge in a neighbour's house, and sat down in silent apprehension, not having breath enough to tell her troubles. In the meantime, Wilson had followed up the snake, and, being without a stick, he had tried repeatedly to kick it, but had always missed his mark. All of a sudden the snake totally disappeared. Now, the true solution of this chase is nothing more or less than that the snake had been disturbed by the old woman, and had taken its departure for some other place, but, on seeing a man come up from behind, it had glided harmlessly along the path which the old woman had taken; and then to save its life, it had slipped into the weeds in the hedge-bottom. Nothing was talked of in the village, but how that Molly Mokeson had been chased by the devil; for the good people of Walton, wiser in their generation than the sages of Philadelphia, never dreamed of taking this animal for a real snake; knowing full well that snakes are not in the habit of chasing men or women. I was consulted on the important affair; and I remarked with great gravity, that there was something very strange and awful in it. "If," said I, "Molly has unfortunately been interfering with any other woman's witchcraft; or if she has been writing words with her own blood; or, above all, if there was a strong smell of brimstone in the lane at the time of the chase,—then, and in that case, there is too much reason to fear that the thing which Wilson took for a snake was an imp from the bottomless pit, sent up here, no doubt, by the king of sulphur, on some wicked and mischievous errand." Poor old Molly is still alive, but Nature is almost done with her; and she is now rarely seen on the cold side of the threshold. Many a time have I bantered old Molly on this serpentine apparition; but she would only shake her head, and say she wished she had been at home that evening, instead of going up Blind Lane.

The following letter is an example of Waterton's scientific precision, and contains an admirable demonstration of the disposition of snakes. It was in reply to Mr F. R. Surtees, a gentleman at the Cape of Good Hope, who had written to inform Waterton that his assertion with regard to the timidity of serpents did not apply to Africa, and that there snakes acted upon the offensive as well as defensive towards man.—[Ed.]

Walton Hall, near Wakefield,
June 23, 1849.

Sir,—Your favour of March 6th, not having the post-town on the address, travelled far and near before it reached me. I was very busy at the time of its arrival, and, seeing that its contents did not require an immediate answer, I put it aside for a while. I now beg to thank you for the information it contains, and for the kind offer of your services.

As I have never been at the Cape of Good Hope, it would be rash in me to question the correctness of what you have narrated to me, or to reject the testimony of those who have supplied you with remarks on the habits of your snakes. However, you will pardon me if I venture to comment on that passage in your letter which tells of a 'viper which was still asleep,' and of another which 'looked menacingly' and 'flashed his eyes.' No snakes have eyelids. Wherefore, after numberless inspections of snakes, I have never, in one single solitary instance, been able to perceive whether the snake were asleep or awake; nor could I ever trust to the eyes of a snake for a sure proof that it were dead, although I had separated the head from the body, and the head had ceased to move. Not so with animals which have eyelids. Again, I could never convince myself that I saw a snake flash its eyes, or even move its eyes. The eyes of *all* snakes, in every country of the world, have a scale to guard them; and this scale differs in no manner of way from the rest of the scales which cover the body. Knowing, then, that the eye is a prisoner, as it were, within this fixed and immovable scale, the moment I beheld Audubon's most incorrect and absurd drawing of a rattlesnake attacking a mocking-bird's nest, I pronounced it to be a cheat, and a disgraceful caricature. If you ask me whether I extend my remark, 'that I never saw a snake tarry for half a moment after I had *disturbed* it,' to all snakes? I should say I do—with the sole exception of those enormous ones whose size and strength put men completely in their power. Such monsters, if their stomachs were empty, would, no doubt, seize the first man that approached their resting-place. But we had an instance, in the woody swamps of the west coast of Essequibo, in South America, of a negro mistaking a huge camoudi snake for a fallen tree. He sat down on it, and the snake quietly glided off into the thick surrounding cover. You will be pleased to make a distinction betwixt *disturbing* a snake and *surprising* one. If you surprise a snake, you are supposed to come on him unawares. In this case, if you tread on him, or are very near him, he is almost sure to turn upon you in self-defence. If you disturb a snake, your presence has caused him (in my acceptation of the word) to move from his place; and, in this case, he will not stop to give you battle, but will go away, and you will see no more of him. A snake, too small and feeble to make a meal of you, would have no object in disputing the path with you. I have seen numberless snakes retire at my sudden approach, and I have seen many remain quite still until I got up quite close to them. I once saw a snake in a tree with a bird, the size of a thrush, in its mouth. I approached most cautiously, and took the bird out of its mouth, taking great care to apply my hand *very* slowly and in great silence. The snake—which was about eight feet long, as far as I could judge—let go his hold of the bird, and then glided down the tree and disappeared. Should you read the 'Wanderings,' you will see that, near Pernambuco, I saved my life by great gentleness in an affair with a rattlesnake.

In conclusion, I would beg to remark that, were I at the Cape of Good Hope, I think I could demonstrate to you, by actual experiment, that none of the snakes there would give me battle or dispute the path. If I were unfortunate enough to come unawares upon a poisonous one, and tread on it, I should consider my death almost certain. If, on the contrary, I got sight of a snake, were he ever so poisonous, I would manage to disturb him in such a manner that he would never think of remaining in my presence for half a moment after he had once moved. The first movement would be continual with him until he were in a place of safety. I might prolong these remarks, but I trust that I have explained myself sufficiently to give you to understand that I was pretty well master of my subject when I ventured to say that 'I never saw a snake tarry for half a moment after I had disturbed it.' Perhaps, at your perfect convenience, you will drop me a line, should this explanation prove satisfactory to you. —I remain, sir, very truly yours, CHARLES WATERTON.

THE CHEGOE OF GUIANA.

——"Priore relictâ
Sede, novis domibus habitant, vivuntque receptæ."—OVID.

Leaving their former haunts, beneath the skin
They form new settlements, and thrive within.

THIS apparently insignificant insect far outdoes the bug in the exercise of its noxious qualities. The bug attacks you in an open manner, makes a hearty meal, and then retires to enjoy it: but the chegoe commences its operations upon you so gently, that they are scarcely felt; and it terminates them in a way that calls for your most serious attention. In a word, it approaches you with such insinuating address, that you absolutely feel a kind of gratification at the very time that it is adopting measures which will infallibly end in your certain torment. Soon after the chegoe has entered your skin, you experience a pleasant itching kind of sensation, by which you begin to suspect that all is not right; and, on taking a nearer view of the part, you perceive that the skin is somewhat discoloured. I know it is supposed by some people that the accounts concerning the chegoe have been much exaggerated. I am not of this way of thinking, for I myself have smarted under its attacks; and I have minutely inspected the foot of a negro, which was a mass of ulcers, formed entirely by the neglected ravages of the chegoe.

Guiana is the native country of this insect. In that hot and humid region, which is replete with everything that can please our imagination, or administer to our wants, we must not be surprised to find here and there some little drawback, some few obstructions in our way, some thorny plants to impede our journey as we wander on. The chegoe resembles a flea: and, had you just come out of a dovecot, on seeing it upon your skin, you might easily mistake it for a small pigeon flea; although upon a closer inspection, you would surmise that it is not capable of taking those amazingly elastic bounds so notorious in the flea of Europe. Not content with merely paying you a visit, and then taking itself off again, as is the custom of most insects, this insidious miner contrives to work its way quite under your skin, and there remains to rear a numerous progeny. I once had the curiosity to watch the movements of a chegoe on the back of my hand, a part not usually selected by it to form a settlement. It worked its way pretty rapidly for so small an insect. In half an hour it had bored quite through the skin, and was completely out of sight. Not wishful to encourage its intended colony, "Avast, there! my good little fellow," said I: "we must part company without loss of time. I cannot afford to keep you, and a numerous family, for nothing; you would soon eat me out of house and home." On saying this, I applied the point of my penknife to the place where the chegoe had entered, and turned it loose upon the world again.

In the plantations of Guiana, there is generally an old negress, known by the name of Granny, a kind of "Junonis anus," who loiters about the negro yard, and is supposed to take charge of the little negroes who are too young to work. Towards the close of day, you will sometimes hear the most dismal cries of woe coming from that quarter. Old Granny is then at work, grubbing the chegoe nests out of the feet of the sable urchins, and filling the holes with lime juice and Cayenne pepper. This searching compound has two duties to perform: first, it causes death to any remaining chegoe in the hole; and, secondly, it acts as a kind of birch-rod to the unruly brats, by which they are warned, to their cost, not to conceal their chegoes in future; for, afraid of encountering old Granny's tomahawk, many of them prefer to let the chegoes riot in their flesh, rather than come under her dissecting hand.

A knowing eye may always perceive when the feet of negroes are the abode of the chegoe. They dare not place their feet firmly on the ground, on account of the pain which such a position would give them; but they hobble along with their toes turned up; and by this you know that they are not suffering from tubboes (a remnant of the yaws), but from the actual depredations of the chegoes, which have penetrated under the nails of the toes, and there formed sores, which, if not attended to, would, erelong, become foul and corroding ulcers. As I seldom had a shoe or stocking on my foot from the time that I finally left the sea-coast in 1812, the chegoe was a source of perpetual disquietude to me. I found it necessary to examine my feet every evening, in order to counteract the career of this extraordinary insect. Occasionally, at one overhauling, I have broken up no less than four of its establishments under the toe-nails.

In 1825, a day or two before I left Guiana, wishful to try how this puny creature and myself would agree during a sea-voyage, I purposely went to a place where it abounded, not doubting but that some needy individual of its tribe would attempt to better its condition. Erelong a pleasant and agreeable kind of itching under the bend of the great toe informed me that a chegoe had bored for a settlement. In three days after we had sailed, a change of colour took place in the skin, just at the spot where the chegoe had entered, appearing somewhat like a blue pea. By the time we were in the latitude of Antigua, my guest had become insupportable ; and I saw there was an immediate necessity for his discharge. Wherefore, I turned him and his numerous family adrift, and poured spirits of turpentine into the cavity which they had occupied, in order to prevent the remotest chance of a regeneration.

The Indian and negro wenches perform the operation of extracting chegoes with surprising skill. They take a pin, and, by a very slow process, they lay the part bare, and contrive to work quite round the bag which contains the chegoe and its offspring. As soon as this has been effected, they turn the bag out, whole and uninjured ; by which means none are left in the hole to form a new colony. For my own part, I never trouble these gentle operators ; although I have looked on many a time, and admired their exquisite skill, whilst they were fingering the toes of my acquaintance. Once, however, I had it not in my power to be my own surgeon, and on that occasion, a faithful old negro performed the friendly office. I was descending the Demerara, with an inveterate tertian ague ; and I was so much exhausted by sitting upright in the canoe, that I had no sooner got ashore at the Indian's hut, than I lay down on the ground at full length. Sickness had pressed so heavily on me, that I was callous to the well-known feeling which the chegoe causes. I was quite unconscious that there was nine thriving nests of chegoes in my back, until one was accidently observed by the old negro ; and this led to the discovery of the rest. I handed him my penknife, and told him to start the intruders. Sick as I was, I wished an artist were present at the operation. The Indian's hut, with its scanty furniture, and bows and arrows hanging round; the deep verdure of the adjoining forest; the river flowing rapidly by; myself wasted to a shadow; and the negro grinning with exultation, as he showed me the chegoes' nests which he had grubbed out,—would have formed a scene of no ordinary variety.

Dogs are often sorely tormented by the chegoe; and they get rid of them by an extremely painful operation. They gradually gnaw into their own toes, whining piteously as they do it, until they get at the chegoe's nest. Were it not for this singular mode of freeing themselves from the latent enemy, dogs would absolutely be cripples in Guiana.

But it is time to stop. I have penned down enough to give the reader a tolerably correct idea of one of the smallest, and, at the same time, one of the most annoying insects which attacks both man and beast in the interminable region of Guiana.

THE YEW TREE.

I NEVER cast my eyes on the mouldering fabrics which once adorned this land, without renewing my veneration for the memory of the holy and useful monks who have gone before us. There is still enough left of the falling walls to show how much these faithful friends of the poor and needy must have been esteemed through the whole extent of the nation; and when I sit me down under the dark foliage of some ancient yew tree, which has escaped the fury of the destroying Vandals, and think of the miserable state to which the sons of poverty are now reduced, I cannot help heaving a sigh, whilst my very heart itself seems to sink within me.

I am extremely partial to the yew tree. It has already repaid me for the pains which I have taken in its cultivation; and when I resort to my usual evening stand, in order to watch the flocks of sparrows, finches, and starlings, whilst they are dropping in upon the neighbouring hollies, I feel not the wintery blast; as the yew trees, which are close at hand, are to me a shield against its fury; and, in fact, they offer me a protection little inferior to that of the house itself.

I have not been sparing in the arrangement of ornamental yew trees. Just sixty yards from the bridge which joins the island to the main, there is a yew-tree crescent, three hundred feet in extent; and not far from this, there are some fine clumps of the same plant, producing a very pleasing effect. Should he who will succeed to them when I am low in dust, have the philosophy to set at nought the modern disapprobation of ornamental planting in lines and circles, he will always command the sweet warbling of unnumbered songsters, from earliest spring to latest summer: for the yew tree is a kind friend to the feathered race; and the wren and the hedge-sparrow will sing sweetly amidst its foliage through the autumn, and even after the winter season has set in.

The cultivation of the yew tree is sure and simple. It will thrive in any soil that is clear of swamp; but, the richer the soil, the richer is the appearance of its foliage; and if the planter will trench his ground from two to three feet deep, throwing back into the bottom the worst of what has been removed, and reserving the best for the upper stratum, he is sure to be handsomely requited by a rapid growth of the trees.

Although the yew tree is a hardy plant, and fond of cold regions (*amantes frigora taxi*), still it will be much more vigorous in the sheltered valley, than on the bleak hill, exposed to the wintry blast. Our western gales here in Yorkshire press far too keenly on its foliage, and render the side which is exposed to their fury as thin and wretched in appearance, as the face of a metropolitan alderman would be on Easter Sunday morning, after having struggled through forty long days of unmitigated fasting. Provided you do not care about having your yew tree in all the exuberance of uncurbed vegetation, you may apply the pruning-knife and shears with a safe and an unsparing hand; for the yew tree will submit to curtailment with good effect, and without any apparent diminution of vitality. If we clip its southern side in imitation of a wall, and allow that which faces the north to flourish in its natural state, we shall have from the same line of trees a walk impervious to the blast of Boreas for ourselves, and a provision of berries for the birds, at a time when their more ordinary supply of food is considerably on the decrease.

Charming is the appearance of the yew tree after the sun has passed the autumnal equinox. The delicate crimson of its fruit, with the dark-green leaves behind it, produces an effect so pleasing to the view, that it can scarcely be surpassed by anything which the southern forests present to the lover of botany as he wanders through their mazes.

The bole of this tree possesses the power of effectually reproducing a supply of main branches, after the original ones have been severed from it by the axe of the woodman. At Lupset Hall, the residence of our former honest member for Wakefield, Daniel Gaskell, Esq., there stands a lordly yew, by far the most gigantic of any in this neighbourhood. At some period of time, now long gone by, all its larger branches have been cut away from the stem. Others now supply their place; and by the present healthy aspect of the tree, we may conclude that, at some future day, this second series of main branches will have attained a growth and vigour equal to what the original ones would have presented to us had they been allowed to remain on the tree.

Ere the combined force of charcoal and saltpetre had enabled us to blow ourselves up instantaneously, we followed the slower process of destroying life by means of the bow made from the yew tree; and this, to men of moderately sanguinary habits, must, I think, have been sufficiently expeditious; for we learn, at the hunting-fray of Chevy Chase, that

> "The English archers bent their bows,
> Their hearts were good and true;
> At the first flight of arrows sent,
> Full threescore Scots they slew."

The bow from the yew tree was in use by private sportsmen as well as by warriors. In the very old song of *The Sow and the Tailor*, the latter cries out—

> "Wyfe, wyfe, bring me my yewen bow,
> That I maye shoot the carrion crow."

Some people are of opinion that the yew tree was planted close to the churches by way of protection, in order that there might always be a good supply of bows in case of war. The Catholic Church, which was founded to preach peace on earth to men of good will, never could have patronised botany for sanguinary purposes. No doubt whatever, the yew tree was planted near the church for the facility of obtaining sprigs and branches to be used during the processions. Religious processions were in high request amongst our pious ancestors. They were an admirable mode of imparting a knowlege of the sacred mysteries of religion to all ranks of people. Terrible indeed has been the loss to our nation by their suppression.

Selborne's immortal naturalist cautions us not to let our cattle feed upon the foliage of the yew; and he gives us an instance of its deadly effects. Hence I have taken the precaution to fence my clumps of yew trees round with an impenetrable hedge of hollies. Sprigs newly taken from the growing yew tree are said not to be poisonous; but in the course of three or four days a change takes place in them, and then their noxious quality prevails. But the ripe berries of the yew tree are certainly not deleterious, as I myself can prove by frequent personal trial,—indeed, nothing is more common in this neighbourhood, when autumn has set in, than to see the village lads idling under yew trees, and partaking plentifully of the fruit, which they appositely call snottle-berries.

Ovid considered the appearance of the yew tree sufficiently lugubrious to give it a place on the hill side which led down to the infernal regions,—"funesta nubila taxo." And we learn from Julius Cæsar that it proved fatal to the human species; for King Cativolcus, after heartily cursing his ally Ambiorix, for having brought him into an irretrievable scrape, had recourse to the yew tree, in order to bid this wicked world adieu for ever,—"Taxo, cujus magna in Gallia, Germaniaque copia est, se exanimavit." The Spaniards, in the days of Cervantes, applied sprigs of yew to mournful purposes, as we gather from the story of Chrysostomo. This unhappy swain fell into languor, and died for the love of the shepherdess Marcela; and his friend performed his obsequies with wreaths of yew and cypress: "Eran, qual de texo, y qual de Cypres." But here in England, the yew sprig, far from being thought an emblem of grief, is chosen to be the harbinger of merriment and joy. Scarcely has the sun's full stop at the tropic of Capricorn announced to us the dawn of the shortest day, ere the housemaid begins to set her rooms in order, and the gardener is desired to prepare his sprigs of holly, box, and yew, as ornaments for every window on the eve of the annual commemoration of that long-promised day, when the eternal Son of God was born of the Blessed Virgin in a stable at Bethlehem for sinful man's redemption.

If the leaves of the yew tree were armed with sharp spikes like those of the holly, we should have a treasure of a tree for the protection of the feathered tribe during the stormy nights of winter. But the want of these repellant appendages renders the yew tree highly perilous to the birds which resort to its inviting foliage for sleep or shelter, as the cat, the stoat, the weasel, and the foumart can pervade its branches with the utmost impunity: whilst the Hanoverian rat, so notorious for self and pelf, is ever prying amongst them, and fleecing their inmates with a perseverance scarcely to be imagined.

THE IVY.

We live to learn. I was not sufficiently aware of the value of ivy for the protection of the feathered race, until I had seen the pheasant preserve of the Grand Duke of Tuscany, in the year 1817. It is called the Cascini, and it is a kind of Hyde Park for the inhabitants of Florence in their evening recreations. At the grove of the Cascini, you see the ivy growing in all its lofty pride and beauty. As I gazed on its astonishing luxuriance, I could not help entertaining a high opinion of the person, be he alive or dead, through whose care and foresight such an effectual protection had been afforded to the wild birds of heaven, in the very midst of the "busy haunts of men." The trees in this ornamented grove are loaded with a profusion of ivy, from their lowest to their topmost branches; and although crowds of fashionable carriages were rolling along the road which surrounds this preserve, I saw our common pheasant roving through its walks, with a confidence little inferior to that of our own domestic poultry. As the evening closed in upon us, I observed multitudes of the smaller birds resorting to the "ivy-mantled" trees, in order to enjoy the proffered convenience of nocturnal rest and safety. I have profited by what I saw in Tuscany,—for on my return to my native place, I began the cultivation of ivy with an unsparing hand.

There are two sorts of this ever-verdant plant. The one is denominated English, the other Irish ivy. Both are exceedingly graceful in their foliage; but the first is by far the better bearer of fruit. They will grow on any soil, save that of swamp. Whilst the plant is on the ground, you have only to cover its long runners with a little earth at intervals of four and five inches, and you will soon have an abundant supply of ivy for ornament; and for use, as far as the birds are concerned. This is a surer way of obtaining plants, than by cutting them at once from the climbing ivy.

Ivy can only attain its greatest perfection through the intervention of foreign bodies. It travels onward in a lowly state upon the ground until it reaches some inclined or perpendicular object, up which it ascends. In due time it then puts out lateral branches and obtains a bole, as though it were a forest tree itself. Ivy derives no nutriment from the timber tree to which it adheres. It merely makes use of a tree or wall, as we ourselves do of a walking-stick, when old age or infirmities tell us that we cannot do without it. Should an ancient wall and ivy come in contact, they are of great assistance to each other. Dyer observed this on Grongar Hill:—

> "Whose aged walls the ivy creeps,
> And with her arms from falling keeps:
> So, both a safety from the wind
> In mutual dependence find."

There can be no doubt as to the real source from whence ivy draws life and vigour: from the ground alone its maintenance proceeds. To be convinced of this, we have only to inspect it narrowly on a living tree, and then pay the same attention to it upon a dead one, or upon any stump deprived of vitality. Be our eye as keen as that of the lynx, we shall not be able to perceive that the one plant is more healthy, more vigorous, or more verdant than the other; and if we cut through the stock of the ivy in either situation, we shall see that its upper parts will wither and die, down to the place through which the knife has passed.

Some few years ago, a tall sycamore tree stood on this island, in a row with four others. A remnant of its once fine bole still occupies the place which the tree adorned in the days of its prosperity. An unexpected appearance of fungus showed that all was not right within, and, erelong, a gale of wind cut the tree nearly in two, sending its head and all its branches (saving one), with a colony of young jackdaws, down into the lake below. The remaining portion of the tree, spared by the gale, put out new shoots from every part of its circumference; but scarcely had these vegetated for four succeeding summers, when another immense fungus made its appearance about two yards from the truncated top, and all vegetation ceased that year, down to the part where the fungus had come out. Below this the trunk was still alive; but another fungus, of equal dimensions with the last, showed itself about five feet from the ground, and deprived the bole of all vegetation upwards.

At length this sickly remnant of the sycamore tree received its final doom, for, last summer, a vast profusion of fungus pushed up its circular cakes even from below the surface of the ground, and, on their coming to maturity, all the living powers within this ill-treated tree expired. The bole now stands a dead and unproductive stump. Any day, a north-west wind, sweeping across the water, may lay it low for ever. Did the ivy which I had planted at the base many many years ago, depend upon this bole for succour, it would now be dead and withered; but, on the contrary, that remaining part of it, free from mutilation when the different portions of the tree fell down, is now in verdure, and in primest vigour; but, as it has no longer an opportunity of creeping upwards, on account of the misfortunes which have befallen the tree, it has assumed the form of a bush, with dense and widely-spreading foliage.

An opinion prevails, that ivy not only deforms the branch to which it adheres, but that it is injurious to the growth of the timber itself. My wish for the preservation and maintenance of birds urges me on to attempt the defence of my favourite plant on these two important points.

The ivy which I planted many years ago has now attained a most luxuriant growth, and, if I may judge by what I see before my eyes, I must conclude that ivy is noways detrimental to the tree which has lent it a support. Having given ivy to many trees and refused it to others in the immediate vicinity, and on the same soil, in order to have a good opportunity of making a fair examination, I find, upon minute inspection of these several trees, that they are all of fine growth, and in a most healthy state—those with ivy on them, and those without it, not varying from each other in appearance more than ordinary groups of forest trees are wont to do. Neither is this to be wondered at, when we reflect that the ivy has its roots in the ground itself, and that it does not ascend in spiral progress round the bole and branches of the tree. Its leading shoot is perpendicular. Hence it is not in a position to compress injuriously the expansive powers of the tree, proportionally stronger than its own. Thus we find that the ivy gradually gives way before them; so that, on removing the network (if it may be so called) which the ivy has formed on the bole, we find no indentations there.

But woodbine acts the reverse of this. Its process is spiral, and it becomes, as it were, an immovable hoop on the plant which it has embraced. As the woodbine, by its circumambient position, cannot give way, the plant must consequently protrude wherever it is not compressed, till at last the woodbine becomes nearly buried in it. Thus we account for the fantastic form of walking-sticks, which are often to be seen at the shop-doors of curious venders. The spiral hollows in these sticks are always formed by the woodbine, never by the ivy.

Having the workings of the ivy, and those of the woodbine, daily before my eyes, I venture, without wishing to impugn the opinion of others, to assert that the latter is injurious, and the former not injurious, to the plant which it has embraced—and this by position alone; for, both having their own roots in the ground, their nutriment is amply supplied from that quarter.

Ivy, when planted on the eastern part of a tree which grows in a high and very exposed situation, can scarcely ever reach the opposite portion of it, on account of the resistance which it meets from the western blast. But it will grow well, when placed on the western side itself; for in this position the west wind presses it to the bark of the tree, and thus becomes its friend. I have a fair example of this in my own park. On a bleak brow there stands the hollow remnant of an oak, which, in the days of its prosperity, measured full twenty feet in circumference. Fourteen years ago I planted ivy on its eastern side. But, to this day, that portion of the bole facing the west remains uncovered by the ivy, which, in its annual attempt to surmount the difficulty, is arrested in its course, and ultimately driven back by the fury of the western gales.

If we wish to see ivy growing in all the luxuriance of health and beauty, we must plant it at the root of some tall Scotch fir, in a low and sheltered situation. Nothing can be more charming or lovely to the sight, than the widely-extending mass of verdure with which it will clothe the bole of the tree. I have a Scotch fir here with ivy round it quite worthy the inspection of poor Charlie Stuart himself, were he still amongst us. The ivy sends its horizontal branches out from the bole to a distance of six or seven feet in vast profusion, and its verdure is so perfectly in unison with the foliage of the fir, that, when you are standing at a little distance, you will be charmed with the additional beauty which it confers upon its stately supporter.

He who may chance to read these essays will see that I have cultivated with great success my three favourite evergreens, the yew, the holly, and the ivy. They give food and shelter to many species of British birds, which are so sadly persecuted by gardeners and gamekeepers throughout the whole extent of the land. I consider the ivy more serviceable than the other two, as its berries ripen at a season of the year when the ordinary food of the fields is far from being plentiful. The berries of the holly are abundant at the same time, but the birds are not nearly so fond of them.

Without these ever-verdant auxiliaries close at hand, I should have but a poor chance of observing the habits of our birds with satisfaction to myself. Writers on ornithology may consult volume after volume of other writers on ornithology who have gone before them; and they may extract from the pages that which in their judgment may appear the best; but unless they themselves have spent years in the field, and those consulted have done the same, it is to be feared that their labours will fall short of their wishes. Errors unintentional, and false surmises, and rash speculations will creep into their works, in spite of every precaution to avoid them. Their production, in truth, will be —

> "similis volucri,—non vera volucris."

Probably, my statement that ivy is not injurious to the tree which has lent it a support may be at variance with the opinion of those who are learned in botany. If so, I beg to say that I have living forest trees, of all ages and descriptions, to bear me out in what I have advanced.

In conclusion, I wish to say a word or two of mutual indentation produced by the union of two forest trees. Near the walk which leads to the flower-garden may be seen an English elm and a Scotch fir growing in close embrace. They are now fifteen feet in height, and one foot ten inches in circumference at the base. By twisting the leading shoot of one tree annually round that of the other, the trees have become deeply embedded in each other's folds. The elm being of stronger vegetation than the spruce, I have taken the precaution of curtailing the lateral branches of the former, lest it should prove too much for its weaker partner.

This firmly-attached couple of vegetable nature attracts considerable notice from passing visitors. When I chance to get hold of some facetious Tory, whose mellowness of countenance assures me that there is little or no acidity within, I tap him gently on the back and say, whilst pointing to the trees: "See there, your Church and State with a witness: a thrifty, keen, and loving couple! I have their everlasting separation much at heart, and would be happy to pronounce their immediate divorce, without any fee or reward whatever."

THE HOLLY.

" See, Winter comes to rule the varied year,
Sullen and sad with all his rising train,
Vapours and clouds and storms."
—THOMPSON.

I AM very partial to the holly, the yew, and the ivy. They give both food and shelter to the birds; whilst their charming green foliage makes us almost forget that winter has set in. The holly claims my preference; for in addition to food and shelter, it affords an impenetrable retreat to those birds that take up their quarters on its branches for the night.

Our ancestors knew and felt the value of the holly hedge, when the wintery blast whistled through the naked hawthorn. Hence they raised it as a barrier against the north; and on the breaking of the clouds at noon, they would resort to the protection which it offered, and there enjoy the sun's delightful presence. But modern innovation, which, in nine times out of ten, does more harm than good, seems to have condemned the holly hedge as a thing of stiff, unsightly form, and in its vacant place has introduced a scanty sprinkling of isolated plants. I own that I am for the warm aboreous plan of ancient days; and thus I never pass a garden where yew and holly hedges grow, without stopping to admire them, and then I proceed onwards with favourable notions of the owner's taste.

But to the holly, in particular. I am so convinced of its utility both to men and birds, that I have spared no pains in rearing it as a shelter from the cold, when Boreas, sure harbinger of storms, sweeps over the dreary waste. The deeper and richer the soil, so much the better for the holly. Still, this favourite plant of mine will thrive almost in any soil, and even amongst the clefts of rocks, where there is scarcely any soil at all. Neither can any of the four rude winds of heaven affect the perpendicular growth of the holly tree, although they make an impression upon the sturdy oak itself. Thus, in this neighbourhood, whilst we see the elm and the beech leaning towards the east by the overbearing pressure of the western blast, we find that the holly has not given way to its impetuosity. Indeed, keep the roots of the holly clear of stagnant water, and you have little more to do, for it forms its own defence; and, moreover, it has one advantage over most other plants, namely, it can push its way successfully up amid surrounding shade and pressure. Its lateral branches, too, will take root, so soon as they come in contact with the soft soil beneath them.

If you place a young holly plant in a full grown hawthorn hedge, it will vegetate in that incommodious site, and will manage, at last, to raise its head aloft, and flourish clear of all opposition. Thus, driven from his native home, perhaps through scarcity of wheat and whisky, I have known a hardy son of Caledonia, although put in a situation apparently hostile to advancement either in fame or in fortune, maintain himself under fearful trials of adversity. In process of time, his perseverance and honesty were crowned by complete success. He took kindly to it, where you thought there would be no chance of ever getting on; but, by carefully watching his hour of advance, in the death of this competitor or in the negligence of that, this frugal, careful, steady emigrator from the North moved slowly onwards, till, in due good time, he passed through all surrounding difficulties; and having got at last into the full sunshine of good fortune, he there took the lead on the high road to long-expected wealth and honours.

He whose nerves would be affected at the sight of a straight holly hedge, might prevent their irritation by forming a crescent; say a segment of a circle to a radius of sixty yards. This would present a fine appearance to the eye, whilst it shut out both the north-west and the north-east winds of winter. Hollies, too, may be planted in a clump, with very pleasing effect to the beholder. I consider a regularly formed clump of hollies to be the perfection of beauty in grouped arboreal design. One single tree of mountain-ash in the centre of this would add another charm to it, and would be of use to the ornithologist at the close of summer. When the holly trees are in full bearing, and the berries ripe, we may roam a long while through the whole extent of British botany, before we find a sight more charming to the eye than the intermixture of bright-red and green which this lovely plant produces

I have a fine circular clump of hollies here, under which the pheasants are fed; and to which, throughout the whole of the winter, a vast number of sparrows, green linnets, buntings, blackbirds, and some starlings resort, to take their nocturnal repose in peace and quiet. The holly sheds a large proportion of its leaves after the summer has set in. These remain on the ground in thick profusion. So formidable are their hard and pointed spikes to the feet of prowling quadrupeds, that neither the cat, nor the weasel, nor the foumart, nor the fox, nor even the ever-hungry Hanoverian rat, dare invade the well-defended territory. Hence the birds, which in yew trees and in ivy would be exposed to inevitable destruction from the attacks of these merciless foes, are safe from danger in the holly bush.

People generally imagine that the holly is of tardy growth. It may be so in ordinary cases; but means may be adopted to make this plant increase with such effect as to repay us amply for all our extra labour and expense. Thus, let us dig the ground to a full yard in depth, and plant the hollies during the last week of May, taking care to puddle their roots well into the pulverised soil. We shall find, by the end of September, that many of the plants will have shot nearly a foot in length, and that not one of them has failed, let the summer have been ever so dry. Small plants, bought in a nursery, and placed in your own garden for a couple of years, will be admirably adapted for the process of transplanting. Had I been aware in early life of this encouraging growth of the holly, it should have formed all my fences in lieu of hawthorn, which, after arriving at full maturity, suddenly turns brown in summer, and dies in a few weeks, without having given any other previous notice of near approaching decay.

Birds in general are not fond of holly berries, but many sorts will feed upon them when driven by "necessity's supreme command." Thus, during the time that the fields are clad in snow, and the heps and the haws have already been consumed, then it is that the redwing, the blackbird, the fieldfare, and the stormcock, numbed by the cold, and bold through want of food, come to the berry-bearing holly close to your house, and there too often fall a prey to the gun of the designing fowler.

In these days of phantom schemes and national extravagance, when work is scarce and penury fast increasing, the holly tree is doomed to suffer from the lawless pilferer's hand. When least expected, you find it arrested in its growth. Its smaller branches by degrees lose their vitality, and, by the end of the following year, one half of the tree appears as though it had received a blast from the passing thunder-storm. This declining aspect of the holly has been occasioned by the hand of sordid mischief. It is well known that birdlime is produced from its bark. In the spring of the year, at earliest dawn of day, our finest holly trees in this neighbourhood are stripped of large pieces of their bark by strolling vagabonds, who sell it to the nearest druggist. So common has this act of depredation been in this vicinity, that I should be at loss to find a single holly tree, in any hedge outside of the park wall, that has escaped the knife of these unthinking spoilers.

Some six or seven years ago, there stood in the ornamented grounds of my baronet neighbour a variegated holly of magnificent growth, and it bore abundant crops of berries, a circumstance not very frequent in hollies of this kind. Many a half hour have I stood to admire this fine production of nature, for it was unparalleled, in this part of Yorkshire, in beauty, size, and vigour. But, at last, it was doomed to perish by a plundering and an unknown hand. One morning in spring I found the whole of its bark stripped off the bole for full two feet in length. Notwithstanding this disaster, the berries became ripe in due time; whilst its leaves apparently retained their wonted verdure upon the greater branches. Even the year following it was alive, and put forth new leaves and blossoms; but the leaves were of a stinted growth, and the berries did not attain their usual size. During the course of the third year from the day of its misfortune, the whole of the foliage fell to the ground, and then the tree itself became, like our giant debt, a dead unsightly weight upon the land.

THE POWERS OF VEGETATION.

In those good days of old, when there were no corn-factors in England to counteract that part of our Redeemer's prayer, "Give us this day our daily bread," by hoarding up vast stores of grain, until mouldiness and vermin have rendered it unfit for the use of man, there stood at Walton Hall a water-mill, for the interest of the proprietor and the good of the country round. Time, the great annihilator of all human inventions, saving taxation and the national debt, laid this fabric low in ruins some sixty years ago; and nothing now remains to show the place where it once stood, except a massive millstone, which measures full seventeen feet in circumference. The ground where the mill stood having been converted into meadow, this stone lay there unnoticed and unknown (save by the passing hay-maker) from the period of the mill's dissolution to the autumn of the year 1813, when one of our nut-eating wild animals, probably by way of winter store, deposited a few nuts under its protecting cover. In the course of the following summer, a single nut having escaped the teeth of the destroyer, sent up its verdant shoot through the hole in the centre of the procumbent millstone. One day I pointed out this rising tree to a gentleman who was standing by; and I said, "If this young plant escape destruction, some time or other it will support the millstone, and raise it from the ground." He seemed to doubt this. In order, however, that the plant might have a fair chance of success, I directed that it should be defended from accident and harm by means of a wooden paling. Year after year it increased in size, and beauty; and when its expansion had entirely filled the hole in the centre of the millstone, it gradually began to raise up the millstone itself from the seat of its long repose. This huge mass of stone is now eight inches above the ground, and is entirely supported by the stem of the nut tree, which has risen to the height of twenty-five feet, and bears excellent fruit.

Strangers often inspect this original curiosity. When I meet a visitor whose mild physiognomy informs me that his soul is proof

The Vigour of Nature.

against the stormy winds of politics, which now-a-days set all the world in a ferment, I venture a small attempt at pleasantry, and say, that I never pass this tree and millstone without thinking of poor old Mr Bull, with a weight of eight hundred millions of pounds round his galled neck; fruitful source of speculation to a Machiavel, but of sorrow to a Washington.

BEAUTY IN THE ANIMAL CREATION.

Every species in the great family of animated nature is perfect in its own way, and most admirably adapted to the sphere of life in which an all-ruling Providence has ordered it to move. Could we divest ourselves of the fear which we have of the serpent, and forget for a while the dislike which we invariably show to the toad, both these animals would appear beautiful in our eyes; for, to say nothing of the brilliant colours which adorn the snake, there is wonderful grace and elegance in the gliding progress wherein this reptile's symmetry appears to such great advantage. The supposed horribly fascinating power, said to be possessed by the serpent, through the medium of the eye, has no foundation in truth. We give the snake credit for fixing his eye upon us, when in fact he can do no such thing; for his eye only moves with his body, and it has always the same appearance, and remains in the same position, whether the animal be roused by rage, or depressed by fear. It is shielded by an outward scale, which has no communication with it, and against which it cannot press; so that when we behold the eye of the serpent represented by artists as starting out of the socket, we know that their delusive imagination has been at work, and that they are lamentably ignorant of the anatomy of this animal. If Mr Swainson be an admirer of correctness in design, I would recommend him to revise and correct his overstrained eulogy on a certain overstrained performance which he terms, "Mocking Birds defending their nest from a Rattle-snake."—(See "Biography of Birds.")

The toad,* that poor, despised, and harmless reptile, is admirable in its proportions, and has an eye of such trancendent beauty, that when I find one, I place it on my hand, to view it more minutely. Its skin too, completely adapted to the subterraneous places into which it goes for shelter, is well worthy the attention of the philosopher. As this little animal is innocuous, I feel sorry when I see it trampled underfoot by inconsiderate people, who have learned from their grandmothers that it is full of venom; and I wish from my heart, that the nineteenth century would produce something more satisfactory than that which we possess at present relative to the habits of toads and snakes. We have a large species of wasp in Demerara, called Maribunta, much more severe with its sting than our English wasp; still, when I used to put down one of these to a toad which I had in a little out-house, the toad would come and swallow it alive, both with avidity and impunity.

Who can look without rapture on the beautiful proportions of the horse? His mane, hanging down a well-formed neck, seems a counterbalance to his long flowing tail as he moves along; and we are all of us aware of what amazing advantage this last-mentioned appendage is to this noble beast when a host of flies are ready to devour him. In fact, there is no putting a sufficient value on this ornamental part; for, whilst he is left in the full possession of it, he can effectually scourge his tormentors, which never fail to attack those places extending beyond the reach of his mouth and hoofs. But man, wanton and unthinking man, the slave to fashion and caprice, has cruelly deprived his best and most useful friend amongst the quadrupeds of this great advantage which nature had so kindly given him; and now we see him, in summer, stung and tormented at every step by blood-thirsty insects, from which he cannot free himself by any process short of rolling on the ground. What, in the name of form and feature, could ever have persuaded Englishmen that the fine flowing mane of their horses was a nuisance, which ought to be reduced; or that the appearance of these superb animals could be improved by docking their tails to a stump some eleven inches long? Nay, I can well remember the time when this destructive mania for improving the anatomy of the horse by subtraction had arisen to such a height of absurdity, that both cart and carriage horses were so entirely bereft of tail, as to present an exhibition disgusting in the extreme. Simple farmers and waggoners had been choused out of their common sense, and taught to believe that such a privation added strength to the general system; just as some unknowing ones of the present day fancy that the pruning-knife produces additional growth in those branches which it spares. This docking pestilence (I allude to the custom of removing the whole of the tail) once raged throughout our island; and you would have thought that Dame Nature herself had taken smittle, as we say in Yorkshire; for I knew a farmer's mare in the county of Durham, about the year 1794, that produced three foals successively without any tail at all. I once thought that I could befriend the valuable animal on which I am writing, by allowing him the full quantity of tail which nature had given to him; and having, at that time, two fine steeds only recently broken in, I gave orders that they should not be deprived of their tails. But I gained nothing in the end. People stared at me as I rode quietly along. One said, if he possessed that capital horse, he would soon mend his looks by having his ugly long tail off. Others remarked, that the horse must be from foreign parts; they could tell it by its tail, for the outlandish people there were but poor hands at setting a horse off to advantage. A third would cry out, with a grin, "There goes Long-tail!" I bore all this with becoming fortitude, till, at last, being obliged to ride to Leeds for mass on Sundays, either the servants of the inn or the hangers-on in the stable-yard made free with my horse's tail, in order to turn a penny by the hair; and they shortened it so much, that it neither appeared one thing nor another, and at last I was reduced to the necessity of calling in the aid of the docker to free myself from future annoyance. This happened three and twenty years ago. Rational people now-a-days will scarcely believe that, near the close of the last century, Englishmen considered that the appearance of the horse would be considerably improved by depriving the poor beast of one half of his ears. Yet this was the case; and it was a common thing to see horses whose mid-parts were beautiful to behold, whilst each extremity presented a distressing picture of mutilation and deformity. It would be difficult to discover what could possibly have given rise to these needless acts of cruelty; for it is generally supposed that the outward part of the ear assists the entrance of sound into the cavity of it: thus we observe blind horses in particular with their ears perpetually pricked; and as the power of moving the ears at pleasure has not been given to ourselves, we are often seen to place our hand behind them, by way of introducing the coming sound to more advantage. There is still another operation on the horse's tail, a torment of three weeks' duration at the least. To be in high beauty, he must have the remains of it (after docking has been performed) curved up permanently over his back. This superlative act of cruelty and bad taste drew down upon us a pleasant and sarcastic remark from the mouths of our Gallic neighbours:—"Quelle folie des Anglais! faire couper les oreilles aux chevaux, et tourner la queue en l'air."

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* In one of Waterton's note-books is written:—*April* 21, 1849.—This day I took up a flower-pot in which I had incarcerated three toads with a little soil. I found them all alive. Two of them were much bleached, the other was very black. I turned them loose to enjoy the spring.

What folly in those Englishmen appears!
They cock their horses' tails, and clip their ears.

The stinking polecat, shunned by most people and persecuted by everybody, presents to our view a symmetry of no ordinary beauty. The length of his body is wonderfully well adapted to that of his neck; and when he carries his prey, there is such a stateliness in his whole contour, that it is impossible not to be struck with the elegance of his motions.

The sloth again is astonishing in its anatomy, which is so peculiarly adapted to its habits that we cannot help pronouncing it a production perfect in every point of view. The strange stories which we have had of it have been penned in the closet, not in the forest. I saw in the *Nation*, an Irish newspaper, of last week, that we may shortly expect a living sloth in London. I am rejoiced at this, because the public will then find by actual observation that I had sure ground to go upon when I ventured to take a near view of this animal, whose economy, up to that time, had been marvellously misrepresented. But we live to learn, as the old woman said when her cat was too lazy to kill a mouse. The cat, by the way, is terribly elegant in its frolics over the captured mouse; and it exhibits such suppleness of body, and such elasticity in its springs, as can only be equalled by those of the tiger itself. It were loss of time to adduce any more specimens of beauty and perfection in the animal world, every part of which teems with objects calculated to increase our thanks and gratitude to God. When we talk of this ugly animal, or of that deformed reptile, or of such a pernicious insect, the true solution of these remarks is,—that we avoid the bear because he would hug us to death; that we dread the cayman because he would swallow us; and that we abhor the bug on account of its bite and unsavoury smell. Still, whilst we are examining these animals as they lie dead before us, we may remark—with the monster Nero, treading over his own prostrate mother—we did not think that they had been so handsome. In our rambles up and down this globe, when we fall in with animals whose shape appears to us either defective or deformed, and whose habits cannot be accounted for, we may lay it down to a certainty, that the work of our great Creator is perfect in all its parts; and that we are at a loss how to turn it to our profit, solely because we have not spent a sufficient time at school in the instructive field of nature.

I intended to have added here a few remarks on man, and to have glanced at the noble symmetry of his frame, and to have made an observation or two on the habits which he has acquired by being in a state of high civilisation: but as he is the prince of the creation, and endowed with reason to make a selection of what is pleasing and profitable to him from nature's giant storehouse, I will reserve a chapter for the purpose. Volumes have been written, and will still be written, on his virtues and his vices, his merits and defects, his customs and his follies. With this before my eyes, I scarcely know what to pen down on a small scrap of paper, that may be in the least worthy of the reader's attention. If I fail in my attempt either to amuse him or to instruct him, I trust that he will show me mercy, for I feel quite convinced that the subject is far too abstruse, refined, and lofty for an humble pen like mine.

THE FOOD OF ANIMALS.

> "Carne feræ sedant jejunia, nec tamen omnes:
> Quippe equus, et pecudes, armentaque gramine vivunt."—OVID.

ON passing the terrestrial animals in review before us, it would appear that those which go in flocks are known to live upon the fruits of the earth, and that those which shun the society of their own species contrive to maintain themselves by preying upon their fellow-creatures. Men are omnivorous, although the old saying of "fruges consumere nati," seems to imply that they would not do wrong in abstaining from carnal food. This arrangement is easily accounted for, seeing that the food of gregarious animals is plentiful, whilst that of solitary ones is comparatively scarce. Were lions to hunt in companies, the captured quarry would be insufficient for their appetites; they would fight for the slaughtered spoil ere they had torn it in pieces, and the strongest would be possessed of the prize.

We have all noticed the growling habits of the beasts of prey, when they approach too near each other at the time of feeding. Carnal food, by being confined to one particular spot, must always bring the consumers into contact. On the contrary, fruitage is widely spread, and offers abundant maintenance to the weak apart from the strong. Even hounds, whose nature is mollified by art, and which are brought by discipline to hunt in concert, cannot be prevented from fighting for their share of the dying fox; and were you to treat them in the field to a dead horse, you would hear nothing but the yells of the bitten, and the snarls of others in possession of the food.

Thus, then, instinct points out to carnivorous animals the necessity of procuring subsistence by solitary effort. And this is well ordained, for the carcass of a deer would ill requite the united efforts of forty lions to secure it. Were they to try the experiment once, their mutual lacerations in the conflict for a morsel of it would teach them to adopt some more agreeable and more productive plan in future.

I consider the stories about wolves hunting in packs as mere inventions for the nursery, to keep cross children quiet. That these animals may join on the road, and arrive at the same point, is a casualty at best, and seldom to be witnessed; for their united voracious appetites would soon have the effect of rendering federal pursuit null and void, by the utter extermination of the object. A fructivorous flock, however numerous at first, would eventually fall a prey to a carnivorous one, as the last would always be on the lookout to appease its hunger on the slaughter of the first; and both being inhabitants of the same district, they could not fail to come in contact for obvious reasons, and then the weaker would be consumed; after which, if the carnivorous animals remained in company, mutual slaughter would be the consequence, or individual death through starvation. When the wolf has business at the sheepfold, he goes alone.—"Incustoditum captat ovile lupus."

As food is evidently the staff of animal life, and its chief enjoyment, we ought not even to hazard a conjecture that Providence would doom carnivorous animals, as we do our poor, to die for want of it; and which most assuredly would be their ultimate destiny did they seek support in congregated packs. But were carnal food as widely diffused and as easy of access as is the herbaceous, we might possibly observe the phenomenon of carnivorous animals enjoying a hearty meal together without a single growl or angry look.

Peaceable is the conduct of the bull, the ram, the horse, and the goat, when grazing on the flowery pasture. But widely different would be the demeanour of a wolf, a fox, a foumart, and a jackal, on the prostrate carcass of a wild boar. Still, the former have as much spirit, and as many fighting propensities at a certain season of the year, as the latter. Scarcity of food then, and its circumscribed position, cause these to feed in strife, whilst its abundance and extended distribution enable those to graze in peace. In a word, harmony exists where Nature "epulas sine cæde et sanguine præbet;" and discord, where "sanguine sanguis alatur."

Food has a surprising effect on the animal system; and in its quality, use, and quantity, man—rational man, may take a salutary lesson from the irrational favourites which flock around his homestead. The Spaniards tell us that other people's cares destroy the ass—"Quidados agenos matan al asno." But putting aside harsh usage and too much work, how comes it that an ass, contented with his thistle in the hedge bottom of the highway, will live for twenty or thirty years without an apparent ailment, whilst a man labours under one kind of disease or other, more or less severe, during a considerable portion of his life? How is it that through the effect of man's improvements in agriculture the stag in his luxuriant park contracts a disease in the liver, whilst that on the bleak mountain's top is ever healthy, and knows nothing of it? Our race-horses are always wanting the veterinary surgeon, and our dairy cattle the cow-doctor. Our sheep get the rot, our lapdogs the mange, and our poultry tumble down in apoplexy. Were these animals allowed to range at large through nature's wild domain, free from the control of man, we should always see them brisk and vigorous, and as full of health, and as beautiful in their natural clothing for the season, as are their congeners roving independent of all his boasted improvements.

What a melancholy thing it is to reflect that rational man is perpetually indisposed, and subject to a multiplicity of disorders, which are seldom or never to be observed in the wild and irrational animals! Flesh and blood, and all their component parts, are the same both in man and beast. Why then should man be doomed to such heavy demands from the doctor and apothecary, whilst the beast, in a state of nature, can do so well without their aid? Had Providence doomed the flesh and blood of the inferior animals to the many maladies which haunt our own, there would certainly have been prepared some efficient remedies for their restoration to health in the day of need. But this has not been the case; wherefore, we may conclude, that no such provision was necessary; and upon the strength of this, we may surmise, with just reason, that we have brought our sicknesses upon ourselves by our own follies; for, as we are at the head of the creation, we cannot suppose for a moment that Heaven would introduce disease into its primest work, and allow its secondary product to be without it. When we see that the brute creation thrives so admirably upon uniformity of food, and that man is observed to languish under a multiplicity of it, we are enabled, without much difficulty, to get at the source which gives rise to his innumerable infirmities. And this leads us straight into his kitchen ay, his kitchen! that sweet enchanting tempter, but, at the same time, an inexorable foe to health, the best and truest friend of man. On the day that Oliver Cromwell (there now wants two, by all accounts) went to scour the Parliament House, and met Sir Harry Vane in the threshold, he cried out in horror, with uplifted hands, "The Lord deliver me from Sir Harry Vane!" And I may say, in like manner, on viewing the kitchen, Oh deliver me from the thraldom of that mortal enemy of my constitution! It keeps gout under the dresser, and fever in the cupboard. It smiles, and smirks, and smells sweetly, and tempts me beyond my strength; and then, having overcome my philosophy, like Circé with the sailors of old, it turns me into a swine. There is no escaping from such an insidious destroyer. It puts its every resource in requisition, in order to effect my ruin. Say, ye stern moralists of the day, how can I resist roast beef with horse-radish, mutton with caper-sauce, and lamb with vernal salad? And when I have unfortunately eaten too much of these, up comes an omelet from the kitchen, smoking hot, and then a cranberry tart, with cheese and celery in the rear. After which, there are fruits and preserves, with a "nunc est bibendum"—

"Jolly mortals, fill your glasses."

Ye powers of mastication! what is to become of me? who can escape from such daily allurements—such beautiful manchineels? All, all are enticing me into the snare, and I am a slave past redemption. Would there were some prudent doctor from Barataria to put his wand upon the treacherous dishes, and forbid me to touch their contents! But there are no such true friends now-a-days. All are lavish in the praise of the kitchen. I must give up to them my better judgment.

——— "Video meliora, proboque;
Deteriora sequor."

I am a victim to savoury smells and tempting cheer; whilst some mellow mortal sings,—

"Oh the joys, the charms of dinner!
Oh the scent, divinely-sweet!

He's a base, unfeeling sinner
Who can shy this splendid treat."

A very slight inspection of our alimentary system will give us too much reason to conjecture that the greater part of our bodily achings and ailments have their origin in an overloaded stomach.

As I have not an opportunity of examining the interior of a dinner-fitted stomach, I will beg a seat in the hazel-nut chariot of Shakspeare's Queen Mab, and take a drive through the gastric regions of a performer at the annual civic dinner, given by the first magistrate of the metropolis; and where "lords and dukes and noble princes," and doctors in law, in physic and dignity, strive their utmost to do credit to the festive board. What a mass of incongruous aliment is exposed to view! hard and soft, light and heavy, salt and sour, sweet and spicy, green and greasy, all floating in a pool of the choicest wines from France and Spain. The operator seems to have tried his grinders at game and fish, butcher's meat and poultry, and confectionary, until his jaw has refused to act. What must be the state of a stomach so sensible and so delicately formed by nature, under such an heterogeneous burden? How such a stomach would wish to be the property of a goose or an ass, in lieu of belonging to a rational being! and how the circumjacent vitals must be incommoded by its unnatural intrusion upon their own sphere of action! We now see clearly the immediate cause of headache, and blue devils, and inflammation, with a long train of ruinous disorders, which bring the noble frame of man to dust long before its time. Well may we hail the improvements in surgery and in pharmacy, by which the machine is enabled to keep in motion at a time when we do everything in our power to impede its motion.

In summary, then, we may rely upon it that the inventive powers of man, ever alive to his own gratification, are always at work to prepare an aliment for him, so tasty, so delicious, so nice, and so seductive withal, that his fortitude and better judgment cannot make a stand against it, although he is aware that his frame of body will not do its duty under it. He has a daily lesson read to him by the free irrational animals around him; notwithstanding which, he and his family will go on to the end of time in its pernicious course, pretty well to-day, indisposed to-morrow, and a little better again the day after, and so on—a victim to his tyrant appetite, whilst his inferiors know not what sickness is, and pass a life of vigour and of joy. In fact, whole communities of men and women must submit to their fate with due resignation : and they may comfort themselves with the thought that by physic and physicians they can struggle on to a fair old age, whilst the beast of the field can arrive at the same without the aid of either. At the time that gout is destroying the symmetry of our originally fine form, and rheumatism arresting our inherent activity, we may turn to the ass in the lane, and say to him in the sorrow of our hearts, "Poor beast, although thy disproportioned ears may excite our contempt, and thy braying our ridicule, nevertheless, when left to thine own resources, thou hast that within thee which directs thee to thy welfare. Thou hast a means from Providence, *ut scias reprobare malum et eligere bonum :* an advantage which we also possess from the same divine source, but which, when the kitchen is concerned, we have not fortitude to turn to our profit. The attractions of the shambles, the larder, and the oven, too often make us thy inferiors." Were it not for the wonderful accommodation of nature, we should have a very short time of it here below. But, luckily, she is a good friend to us ; for, although she thinks proper to chastise us with incidental attacks of sickness and disease, she kindly habituates our bodies to surprising extremes of plenitude and poverty. Thus, we read that Claudius Albinus could despatch at one supper 500 figs, 100 peaches, 10 melons, 20 lb. of grapes, 100 ortolans, and 60 oysters. No doubt the glutton's constitution paid handsomely for this. To have borne such a load, the fellow's stomach must have been as strong as Mr Bull's back, saddled with 800 millions of debt, and Peel's income-tax to boot, by way of Mackintosh. I would not have slept in the same sty with this hog for the finest bird of Paradise from the woods of New Guinea. As an opposite extreme, I may notice Cornaro of our own times. By never touching butcher's meat, and by extraordinary abstinence, he saved himself, at the age of thirty, from consumption, pronounced mortal by his physician ; and he lived to somewhere above one hundred and five years, ever happy, well, and merry, and was blessed with the full use of all his faculties to the very last.

CANNIBALISM.

"Heu! quantum scelus est, in viscera viscera condi;
Congestoque avidum, pinguescere corpore corpus."

If, in the strict sense of the word, by cannibalism is meant the ordinary feeding of man upon man, incited solely by the call of hunger; then, in my humble opinion, there is no such phenomenon to be found. Did such a thing really exist, the very act would indeed reduce the exalted rank of man to a very inferior state. Tigers, known to be so sanguinary, never feed on tigers. If animals were to eat animals of their own species, there would soon be an end to the breed altogether.

The Roman poet, in his amusing account of the creation, has given, most justly, to man a character which raises him far above the level of all animals. He tells us, that after these had received their existence, there still was wanting an animal of superior intellect, to hold dominion over all the rest; and man was then created :—

"Sanctius his animal, mentisque capacius altæ, deerat adhuc, et quod dominari in cætera posset; natus homo est."

If man had originally been formed by his Maker to be a cannibal—that is, as I have just observed, to feed upon his fellow-man, in order to satisfy the craving of his hunger—there does not seem to have been any particular objection why Cain, after his murder of Abel, should not have had a joint out of him for his own dinner. Still, there is no mention made that Cain, on this occasion, did treat himself to a feast on any part of his brother's body. Wherefore we may safely infer that man was not created to feed upon his own species, and that, when he is absolutely reduced to the sad necessity of doing so, he is either instigated by ungovernable passion, or else he is reduced to the terrible necessity of prolonging his existence by casting lots to determine which man shall die to save the lives of the rest—as in cases of shipwreck, or in other dreadful disasters, where nothing remains, and where nothing can be found that will support life, short of the terrible sacrifice. I would not call people in this shocking dilemma by the name of cannibals; neither would I fear to be sacrificed by them, were I unexpectedly to come up with them, fully confiding that they would put me upon the same footing with themselves when they cast lots to decide who was to be the devoted victim.

As to the flesh itself of man, there can be nothing in it of an objectionable nature as food more than in that of animals in general. I can easily conceive that an expert cook can make it into a dish quite as savoury as that of beef or mutton; but then, he must keep his revolting doings a profound secret, otherwise nature would startle at the very appearance of the dish when served at table, and man would turn sick at the sight, because he has that within him which says, Thou shalt not feed upon thy fellow-man;—this, in fact, being a general prohibition, from the Maker of all things, that one animal shall not prey upon another animal of the same species.

Unfortunately we cannot come at the true nature of an animal when anything has intervened to change its original habits. For example, captivity in a cage will cause a parrot to feed on flesh-meat —a thing which it is never known to do when wild in its native woods, where instinct teaches it to live on vegetable food alone, and where it is sure to fulfil the law imposed upon it by the Creator.

Again, when the habits of a brute animal have been changed by domestication, it is known by experience occasionally to feed upon its own species; so that, when a sow has been pent up in an incommodious sty, on the eve of farrowing, or, as we unmannerly boors of Yorkshire say, a day or two before pigging, she has been known to devour some of the litter. But whether the victims were dead or alive at the time of this unnatural act, I have never been able to learn; for, on questioning farmers if they have actually seen sows feeding upon their living little ones, the answer has been anything but satisfactory. From this I have formed the conclusion, that the sow, being in too small an apartment, must have overlaid part of the litter, and eaten those which she had killed, her appetite having become depraved by confinement—probably more so by this imprisonment than by artificial food, as I cannot learn that such unnatural deeds are ever perpetrated in the fields, or when the sow has the run of a capacious yard.

I must here pay a compliment to the herds of wild swine which range through the forests of Guiana. I have killed them, and I have dissected them, and am acquainted with their habits. But neither my own observations, nor information on the part of the Indians, have induced me to entertain the slightest suspicion that these wild animals, or any others, do, under any circumstances, feed upon each other. They seem all to obey the original law of nature already mentioned. I am of firm belief that, when left in their own freedom, pigs will never feed on pigs.

If this paramount law is not broken by the brute creation, we may well imagine that it is paramount with man, a rational animal. In this light, then, man cannot be considered a cannibal, in the strict sense of the word, although some instances may occur which will occasionally cause him to eat his own species. Were man a real cannibal, he would make use of his superior powers of mind to plot against the lives of his fellow-creatures, in order to gratify his appetite. He would be for ever bent on their destruction, and they on his, until the race of uninstructed men, generally known by the name of savages, became entirely extinct. Moderation would be out of the case. A cannibal could not think of confining himself, once in a way, to a festive dinner on his tender sister, or to a single dish of soup made out of his old grandmother. He would want more of the delicious nutriment, and he would continue to long after human flesh wherever there was an opportunity of obtaining it.

Contemplating cannibalism in this point of view, I come to the conclusion, that the nature, the habits, and the superior powers of man, forbid him to be a cannibal.

Let us inquire what it is that instigates a brute animal to prey upon one of its own species; after which we can extend the investigation to man himself, and then see what it is that causes this rational being to forfeit his high position in the creation; and in fact, to place himself below that of wild beasts themselves. I say below, because man, in his most uncultivated state, possesses reasoning qualities of sufficient force to keep him at the head of all animals, whilst these latter have nothing more than instinct for their guide.

If a number of irrational animals, consisting only of one species, were to be deprived of their liberty, and to be shut up in a place from which they could not escape, they would prey upon each other as soon as absolute hunger forced them to do so. Of this there are many well authenticated instances, by which we clearly perceive that hunger alone has been the real incentive. For example, confine a dozen Hanoverian rats (animals so notorious for living on other people's means) in a large cage replete with provisions, when the last morsel of these provisions has been consumed, then the stronger will eat up the weaker. Even in this case it would be absolute necessity, and not depravity, which compelled them to feed upon each other,—for, as the saying has it, "Necessity knows no law."

On the contrary, whilst rats are in the full enjoyment of their liberty, they are not known to prey upon each other. Their superlative knack of fending for themselves would always prevent the necessity for mutual destruction. Whilst I am on the subject of rats, although I freely concede to these able friends of mine a vast supply of brain to manage their own affairs, still I cannot believe the following instance of their sagacity. A farmer, in this neighbourhood, once declared to me that he had seen an old *ratten* in the act of conducting a blind one along the king's highway. A straw, held in their mouths, was the conducting medium betwixt the blind rat and the rat which had the use of its eyes. This happened during the night when the full moon shone brightly. But, on my asking the farmer how he had contrived to approach these two intelligent travellers sufficiently near to distinguish that one of them was blind, his answer did not satisfy me; so I dropped the subject after he had informed me that the scene took place on the night of the market-day. He liked his glass of rum and water. No doubt but that the contents of it had caused this jovial son of Ceres to see double.

The fox and the dog are so nearly allied to each other that their union is known to produce issue. But although the dog will worry the fox, and even eat him occasionally, this is no proof that dogs will naturally feed on foxes. I adduce the chase. A pack of hounds, urged on by men in scarlet liveries, and closely followed by a group of horsemen, soon start old Reynard from his lone retreat. In an instant all rush forward. The hounds give mouth and follow up the scent. Poor Reynard's arts avail him nothing. "His feet betray his flight." The hounds rush in upon him, followed by the joyful huntsman. In an instant Reynard dies, and his mangled remains are swallowed by the infuriated pack; whilst the interfering huntsman, with his long whip, lashing the hounds on all sides, is barely enabled to save the drabbled brush. This carcass of the worried fox is unnatural food for them. It has been procured by ungovernable excitement, which has so blinded them that they have not discriminated the loathful remains of a disgusting fox from the ordinary food which they daily receive from the hands of the huntsman whilst they are in the kennel. Now, nature has had nothing to do with the repast. If the captured fox could have been rescued from the mouths of its devourers, and offered to them when it had become cold, and their own fury had subsided, not a dog in all the pack would have touched it. Congenial instinct, no longer vitiated by the recent excitement of the chase, would cause the dogs to reject the unusual and disgusting food. But had the carcass of a sheep been thrown into the kennel it would have been consumed immediately, because the dog and the sheep form two distinct species of animals no way connected with each other.

The excitement caused in the chase will be fatal to an affection which is sometimes known to exist betwixt the dog and the fox. We had an instance of this in the days of my father, who had been a noted fox-hunter in early life. In the kennel of a neighbouring baronet there was a tame fox, and my father used to be much amused in observing the uncommon familiarity which existed bewixt it and the hounds. These would play with it, and it with them, in all manner of postures. When a good run was wanted, a whipper-in would take the social fox and place it on a pad, so contrived at the horse's crupper, that there was no danger of his slipping from it. The man would then leave the kennel, and after having ridden to a certain distance from it, he would get off horseback and place the tame fox on the ground. Then, remounting his horse, he would canter away through localities best suited to produce an excellent day's sport; the fox keeping up with him as though it were a favourite terrier. When the hounds, in full cry, had advanced sufficiently near to put the man upon his guard, he would dismount, and having placed the fox in its former situation, he would get on horseback again and gallop away. This caused the scent to cease, and the chase was no longer pursued.

Cervantes truly remarks, that the pitcher is carried to the well so many times, and then gets broken. Such was the untimely fate of our poor little Reynard. One day, whilst the hounds were hard on the scent, somehow or other the man allowed them to approach too near, and before he could secure his charge they came up, and having torn the fox in pieces, they ate every morsel of it; their rage not allowing them to distinguish the pet from an ordinary fox. Here artificial excitement, and not natural feeling, induced them to destroy and consume the very animal of which they had been so fond when it was in the kennel with them.

Hence, I infer, by the common law of nature, that foxes will never eat foxes, nor dogs prey upon dogs, unless artificial excitement or famine intervene, to render nugatory, amongst brute animals, the universal mandate, which is equally imposed upon man himself, who is a rational being.

Thus, in the true meaning of the word, man will never be a cannibal; that is, man will never feed on man, in the ordinary way of food. Something must, indeed, occur of most extraordinary import, to abrogate the supreme injunction placed upon the sons of Adam by order of their Maker. I am well aware that shocking accounts are on record of man devouring the flesh of man. But these accounts require looking into. The fact of man eating up his fellow-creature demands an investigation of the utmost care and discrimination. There is no doubt in my own mind, but that accidental occurrences, and not a natural appetite, may be the cause of an inhuman repast upon human flesh. Wars amongst savages, whose feelings have not been tempered by the soothing influence of civilisation, are sometimes the cause of an odious meal, which could never be obtained at the shambles. Indeed, by accounts which I have perused from time to time, I should unhesitatingly believe that war is the chief, perhaps the only cause amongst savages, of man regaling himself upon the flesh of man; always excepting, that dreadful moment in human existence, when unendurable pangs of hunger have forced, even civilised man, to preserve his own life on food from the body of his fellow-creature.

Before I left the cultivated plantations of Guiana, to wander through its wild interior, I had been forewarned by many respectable planters, that cannibals were known to be in the forests; and that, if I went without sufficient force to protect me, I should be killed and devoured by these monsters. Several Indians also corroborated the absurd notion; and they were quite sure that I should become a prey to the men-eaters. But I was not to be frightened at shadows, nor forced to change my own ideas, by old grandmothers' stories. Determining, in my own mind, never to give cause of offence to anybody, I journeyed amongst the natives without any fear of having my flesh cooked to suit their present appetites, or of its being salted for future use. During the whole of the time which I spent in the regions extending from that part which Captain Stedman terms the wild coast of Surinam, near the Atlantic Ocean, to the Portuguese frontier fort on the Rio Branco (see the "Wanderings"), I never fell in with a cannibal.

Still, I could wish to mention a circumstance, which a stranger would consider tantamount to proof positive, that certain Indians of Guiana have really a liking for human flesh, in its dried state; as hands of this description have occasionally been discovered in pegalls, which are a kind of band-box composed of a species of reed, and used for the purpose of conveying their hammocks, with other little matters, from place to place. This ominous discovery is thus explained. Whenever the fugitive or maroon negroes had mustered sufficient force in the forests to place the colonies in jeopardy, then it was that armed troops were despatched into the interior to attack their settlements. In these warlike expeditions, the Indians acted the part of auxiliaries to the colonists, who rewarded their services, for every maroon taken or slain, under the following condition: viz., that the Indian, when he came to claim the reward, should produce the right hand of the maroon. Now, as flesh will not keep sweet more than a day in those hot climates, the Indian cut off the dead maroon's hand, dried it over a slow fire, and then packed it in the pegall, as described above; to be produced at head-quarters, when the promised reward was claimed. This is the true history of dried hands having been found in the pegalls of the Indians:—a discovery certainly, at first sight, suspicious enough to fasten on these natives of Guiana the unenviable reputation of being genuine cannibals.

When St Francis Xavier, the glorious apostle of the East Indies, had set his heart upon christianising the barbarians who inhabited the Island of Moro, and its dependencies, he was entreated by the Portuguese people not to think of such a perilous enterprise. In order that they might possibly deter him from undertaking the expedition, they assured him, that the inhabitants were cannibals; that they poisoned each other; that their nourishment consisted of human flesh; that, when one of the family died, they cut off the hands and feet, out of which they made a savoury dish; nay, their depravity went so far, that, when they intended to give a grand dinner to their neighbours, they requested one of their friends to give them up an aged father to be made into a dainty stew, for the invited guests; and that they would do their friend a similar good turn, whenever he should determine to have a party for dinner. If this alarming piece of information had been founded in truth, then would the existence of genuine cannibalism have been established beyond all manner ot doubt, for here we have a statement that the savages butchered their aged parents in cold blood, and then cooked them, so that their friends might partake of the savoury cheer—no mention being made of a battle. In fact, St Francis was put upon his guard, that the Island of Moro was peopled by human beings with appetites so depraved, so keen, and so gluttonous, that the master of the house considered he could not consult the refined taste of his company better, than by preparing human soup, human fry, and human steaks for them at his own dining-table.

Whilst I am on gastronomy, if the indulgent reader will pardon a short digression, I will show him what we civilised people can do in the way of ultra-gormandising. It is concerning a dinner, which brings to one's mind those days of ancient epicurism, when Caligula raised the Roman kitchen to a pitch of most lamentable notoriety. Here are the component parts of one single dish, costing one hundred guineas to the consumers of it. The reader may well suppose that the whole affair was merely a hoax. But I can assure him that it was no hoax at all. It was truly and really a thing of flesh, spice, and paste, manufactured expressly for the palates of those alone who could duly appreciate its transcendent merits.

		£	s.	d.
5	Turtles' heads, part of green fat and fins,	34	8	0
24	Capons, the *noix* or nut, from the middle of the back only used,	8	8	0
18	Turkeys, the same,	8	12	0
18	Poulardes, the same,	5	17	0
16	Fowls, the same,	2	18	0
40	Woodcocks, the same,	8	0	0
100	Snipes, the same,	3	6	0
3	Dozens of Pigeons, the same,	0	14	0
43	Partridges, the same,	3	7	6
10	Dozens of Larks, whole,	0	15	0
30	Pheasants	5	5	0
6	Plovers	0	9	0
3	Dozens of Quails,	3	0	0
	Ortolans,	5	0	0
	The garniture, consisting of cocks' combs, truffles, mushrooms, crawfish, olives, American asparagus, cronstades, sweet-breads, *quenelles de volaille* and sauce,	14	10	0
	Total,	£104	9	6

N.B.—"The way the cook accounts for the extravagance of this heterogeneous mass and mixture of food for man, is as follows: viz., that if an epicure were to order this dish only, he (the cook) would be obliged to provide the whole of the above-mentioned articles."

Even so; but the cook has not told us how much of the expended money he recovered by selling (probably at prime cost) those parts of the turtles and fowls, &c., which were not necessary for his stupendous dish. But all comment here is absolutely useless. I will merely remark, that, with the "*garniture*" alone, it would be quite unimportant, whether the cook concocted his dish with the ingredients noticed above, or with the "*noix*" and flesh of hawks, carrion crows, vultures, foumarts, snakes, and water-newts. Were I to spend time in comments upon this display of modern extravagance and vitiated appetite, I would say, zoologically speaking, that if our well-known bird, the owl, sacred to Minerva, had been called upon for an opinion, it would have gravely pronounced, that a fox must have presided at the committee, a hyæna have been cook, and a stud of asses the consumers of the dish in question.

But let me return to the Island of Moro. St Francis Xavier, notwithstanding the dismal forebodings of his warmest friends, went boldly to the island of cannibals. The inhabitants, in lieu of seizing him for the frying-pan, fled precipitately to their woods, whither the charitable father followed them. The meek and courteous behaviour on his part soon allayed their imaginary fears; and the whole island was converted by St Francis Xavier to the Catholic faith. During the three months that he tarried with these barbarians, no mention is made, no hint is thrown out, no solitary instance is adduced, of these people being prone to cannibalism. Had his conduct tended to enrage them, he certainly might have run the risk of being knocked on the head, and then devoured, whilst their ungovernable paroxysm of frenzy lasted; for let it be remembered, that these islanders were savages of the first description. They had not been civilised; neither did they know what it was to control their gusts of passion. So that, in their rage, they ran the risk of being led to commit an unnatural act, which, in their cooler moments, they never would have perpetrated.

I have remarked, at the commencement of these notes, that there is a law written in the heart of man forbidding him to kill his fellow-man. But this same law does not prohibit him from eating the flesh of man. In doing so, a man must be governed entirely by his own imagination. Thus, in a civilised state, when the party has not actually been reduced to the last extremity of saving life, by casting lots who should die, there would be great difficulty in persuading them to make a meal of any part of a dead human body. Imagination alone is the actor in this case. A chop of man would be just as palatable as a chop of mutton, under the hand of a good cook, and fried in London gravy. A person, perfectly ignorant of the real nature of the dishes placed before him, would undoubtedly approve of them, and find them very good and nutritive.

In the wilds of Guiana, we boil the large red or howler monkey for dinner. It resembles, at first sight, the body of a child. In fact, you would take its head to be that of a veritable infant. Still I had too much nerve to be deprived of a wholesome repast by the intervention of my own imagination.

I can easily conceive that a savage, whose finer feelings had never been called into action by education, would find no repugnance in making soup of his slain enemy; and that he would enjoy it, just as we ourselves should enjoy soup made of ox-tail, or of any other carnal ingredient. Probably, had a savage been present at one of our late Crimean battles, whilst he would have condemned the human slaughter (or rather, let us call it, the inhuman slaughter) as wrong and unnecessary in his eyes, he would have yearned for a dish made from the leg of a healthy sergeant newly-slain; and, if salted swine, in its raw state, with green coffee-berry garniture, had been on the same table, he would have rejected this, and would have made his meal on that.

We can only come at the true flavour of flesh meat by eating it raw—seeing that rich sauces, fire, and cookery, so change the nature and appearance of it, that, after it has undergone the culinary process, an expert connoisseur in things appertaining to gastronomy would find it a difficult task to know whether he were about to partake of monkey-pie or human pasty.

I myself (but not at Walton Hall) have witnessed individuals in genteel life make a hearty meal of pie made of carrion crow, having mistaken it for one of pigeon. In this instance, it was appetite and not prejudice that "ruled the roast;" for had the parties been aware of the real nature of the pie, we may take it for granted that it would have been ordered out of the dining-room, abhorred and untouched.

In my opinion, the veriest savage in existence is conscious that he commits a crime when he kills his fellow-man in what we term cold blood. But in the simple act of eating the flesh of man he does not feel himself culpable, because civilisation has not worked upon his imagination so as to place the act in a repugnant and in a disgusting point of view.

By the way, this imagination of ours in civilised life is a stern commander. We all know that stewed horse is just as good, nay, sometimes much better than stewed cow; yet such is the general prejudice, that, in nine cases out of ten, the latter would be eaten with an appetite, whilst the former would be rejected with abhorrence.

Before I can bring my mind to believe in the existence of cannibalism, such as I have defined it at the commencement of these fugitive notes, I must be convinced that there really does exist a human being, no matter in what part of the world, who will slay his fellow-man, without any provocation having been offered, or any excitement produced; but that he is known to deprive him of his life merely for a supply of daily food, just exactly with the same feelings, and with no others, than we would shoot a hare or a pheasant to entertain a dinner party.

Sometimes, even in civilised life, we witness strange things, very nearly approaching to cannibalism, in the common acceptation of the word.

In the United States of North America, two individuals of the higher ranks had a desperate row, hand to hand. The affair terminated in the disgustful act of one having bitten off the greater portion of the other's ear. "Sir," said a person who was looking on, "I presume you know that you have unfortunately lost an ear in this terrible scuffle."—"No matter," rejoined the enraged combatant; "the fellow has got the worst of it; for, look," said he, opening his hand as he spoke the word, "I have bitten off the scoundrel's nose."

If these Christian warriors had been savages in the woods, and not members of civilised life, there can be no doubt but that both the ear and the nose would have gone down into the stomachs of the doughty champions. Still, in my idea, they would not have been cannibals, even if they had torn off and swallowed each other's cheeks, and gloried in the hideous act.

In a word, if any traveller will step forward and positively declare that he has undoubted intelligence of wild men who, without having received any provocation, will kill one of their own tribe, or of any other nation, and then eat him, as he would eat ordinary food,—then, and in that case, as our lawyers say, I will readily believe that real and genuine cannibals do exist; and, moreover, I will no longer object to receive for truths all the strange accounts which I have read in books, and have hitherto considered as mere inventions to deter travellers from exploring the uncivilised parts of the world, or to astound listening children on a winter's night, when howling winds and drifting snow announce that there is murky mischief going on, and gipsies encamped close by to kidnap them, should they be rash enough to venture out beyond the threshold of their comfortable habitation.

I have entered into this inquiry, and have determined to place my observations before the eye of the public, in order that man, the noblest animal in the creation, even when he runs wild in the woods, may be put upon an equal footing with his civilised brother, so far as their daily food in flesh meat is concerned; and thus be cleansed from a stain so foul and black as that of real cannibalism.

When I travel into countries inhabited by savages, I would thus address the assembled natives:—

"Ladies and Gentlemen, I am come to see you, and to admire your beautiful country, but not to eat you, nor to be eaten by you. I assure you, that it is not my intention to enter into your private quarrels; nor, so long as I have the pleasure of staying amongst you, shall I feel any longing for a repast on the dead bodies of your sworn enemies, slain in battle. People in the country from which I have come, and in which I was born, cannot bring their minds to feed on human flesh; neither can I. When we kill our adversaries, which we sometimes do to the tune of ten thousand a day, we are not in the habit of roasting their bodies, and then eating them, or any part of their remains. But this, ladies and gentlemen, is merely a matter of taste; or perhaps, in your keen eyes, it may be termed a want of taste. If you will kindly furnish me with a few sweet potatoes, or any other thing in the way of vegetables, I will, by no means, take offence at your making a meal on the slaughtered remains of your foes; and upon which sort of food, we people from Europe are informed, that you dine occasionally with a considerable degree of relish."

Negroes from Africa are fond of dog for dinner; but I question whether or not they ever regale themselves on the flesh of man. At least, I have never as yet been able to discover that negroes are prone to this last kind of nutriment. I was often in Guiana when the slave trade was in full vigour there. Considering that negroes were imported into the colonies of the new world by tens of thousands, brought prisoners from the remotest recesses of Africa, we might suppose that some of these, if not many of them, were now and then in the habit of feeding upon their fellow-creatures. But I could not learn from captains of Guineamen, that they had ever detected a man amongst the slaves, in the passage from Africa to America, feeding on his dead comrade. Such a repast, the captains assured me, was utterly unknown. I had proof positive, that negroes have a yearning for dogs' flesh. On a plantation about twenty miles up the river Demerara, there lived an Irish gentleman, of a merry turn, and of noted hospitality. Having just received from Scotland an uncommonly fine terrier, he was wishful to try its mettle. A lieutenant of artillery, being himself a great dog-fancier, was duly informed of this dog's arrival; and he was invited to pass a day in the Irish gentleman's house, and to bring his own terrier with him, in order that the two dogs might join in mortal combat. Myself and three others were asked to join the party; and we all embarked at Strabroek, in the Irish gentleman's tent-boat. On our arrival at the plantation, unfortunately, the Scotch terrier was missing, nor could anybody conjecture what was become of him. A batch of newly-imported slaves having been located on the property, a hint was given, that possibly the dog might have found its way against its will into one of their huts. This was actually the case. With a long stick thrust through it, the dog was found half-roasted at the fire. It had not been skinned; neither had the intestines been taken out. So there it was, woodcock-like, and would soon have been ready for the negroes' dinner.

One could hardly have conceived a scene more ludicrous. The Irish gentleman raved with vexation. The lieutenant of artillery shrugged up his shoulders, as he viewed the smoking dog; and we ourselves, confiding in the Irishman's known good humour, laughed most immoderately. Thus ended the expected diversion at the Irish gentleman's plantation, verifying the old Spanish proverb in Don Quixote:—"There is nothing certain in this life: sometimes a man goes in quest of one thing and finds another."

DEFENCE AGAINST ANIMALS OF THE FELINE AND CANINE TRIBES.

A MAN, at some period or other of his life, may have the misfortune to come in contact with the larger individuals of these two desperate and sanguinary races of quadrupeds. Perhaps a few hints of a precautionary nature, in case of collision, may not be altogether unacceptable to the reader.

The dog and the lion are both most formidable foes to an unarmed man; and it is singular enough that the very resistance which he would be forced to make, in order to escape being worried by the former, would inevitably expose him to certain destruction from the claws and teeth of the latter.

All animals of the dog tribe must be combated with might and main, and with unceasing exertion, in their attacks upon man; for, from the moment they obtain the mastery, they worry and tear their victim as long as life remains in it. On the contrary, animals of the cat tribe having once overcome their prey, they cease for a certain time to inflict further injury on it. Thus, during the momentous interval, from the stroke which has laid a man beneath a lion to the time when the lion shall begin to devour him, the man *may* have it in his power to rise again, either by his own exertions, or by the fortuitous intervention of an armed friend. But then all depends upon quiet, extreme quiet, on the part of the man, until he plunges his dagger into the heart of the animal; for if he tries to resist, he is sure to feel the force of his adversary's claws and teeth with redoubled vengeance. Many years ago, Colonel Duff, in India, was laid low by the stroke of a Bengal tiger. On coming to himself he found the animal standing over him. Recollecting that he had his dirk by his side, he drew it out of the case in the most cautious manner possible, and by one happy thrust quite through the heart, he laid the tiger dead at his side.

I will here mention a trivial row I once had with two dogs. It will tend to prove the advantage of standing up manfully when attacked by animals of the canine tribe; and I will conclude with recounting an adventure with a lion, perhaps unparalleled in the annals of hunting. Towards the close of the year 1823, in passing over a common, I accidentally came upon two dogs. One of them was a stout, ill-looking, uncouth brute, apparently of that genealogy which dog-fanciers term half-bull and half-terrier; the other was an insignificant female cur. The dog immediately bristled up; and I had just time to take off my hat and hold it shieldwise in self-defence, when he came on and made directly at it. I gave him a hearty kick under the breast, which caused him to desist for a moment. But he stoutly renewed the attack, which was continued for above five minutes; he always flying at the hat, and I regularly repeating my kicks, sometimes slightly, sometimes heavily, according to our relative situations. In the meantime, the female cur was assailing me from behind; and it was with difficulty that I succeeded in keeping her clear of me, by means of swinging my foot backwards at her. At last, a lucky blow on her muzzle from the heel of my shoe caused her to run away howling, and the dog immediately followed her, just at the moment when two masons were coming up to assist me. Thus, by a resolute opposition, I escaped laceration. But this little affair is scarcely worth relating, except that it affords a proof of the advantage to be derived from resisting the attack of a dog to the utmost.

And now for the feline tribe. The story which I am about to recount will show that non-resistance was the only plan to be pursued when escape from death seemed utterly hopeless. The principals in this affair were a brave young British officer and a full-grown lion of India. I was at Frankfort-on-the-Main in August last, and I heard the account from the officer's own mouth. I shall never forget the affable and unassuming manner in which he related it to me. I repeatedly urged him to allow me to put it on record, and at the same time to make use of his name; but I plainly saw that his feelings were against his complying with my request; and I think I should not have succeeded, had I not luckily brought to my assistance the plea of benefit to natural history. With this I conquered the objections of the young soldier; and I only wish that it had fallen to an abler pen than mine to relate the following adventure.

In the month of July, 1831, two fine lions made their appearance in a jungle some twenty miles distant from the cantonment of Rajcoté, in the East Indies, where Captain Woodhouse and his two friends, Lieutenants Delamain and Lang, were stationed. An elephant was despatched to the place in the evening on which the information arrived; and on the morrow, at the break of day, the three gentlemen set off on horseback, full of glee, and elated with the hope of a speedy engagement. On arriving at the edge of the jungle, people were ordered to ascend the neighbouring trees, that they might be able to trace the route of the lions, in case they left the cover. After beating about in the jungle for some time, the hunters started the two lordly strangers. The officers fired immediately, and one of the lions fell to rise no more. His companion broke cover, and took off across the country. The officers now pursued him on horseback, as fast as the nature of the ground would allow, until they learned from the men who were stationed in the trees, and who held up flags by way of signal, that the lion had gone back into the thicket. Upon this the three officers returned to the edge of the jungle, and having dismounted from their horses, they got upon the elephant—Captain Woodhouse placing himself in the hindermost seat. They now proceeded towards the heart of the jungle, in the expectation of rousing the royal fugitive a second time. They found him standing under a large bush, with his face directly towards them. The lion allowed them to approach within range of his spring, and then he made a sudden dart at the elephant, clung on his trunk with a tremendous roar, and wounded him just above the eye. While he was in the act of doing this, the two lieutenants fired at him, but without success. The elephant now shook him off; but the fierce and sudden attack on the part of the lion seemed to have thrown him into the greatest consternation. This was the first time he had ever come in contact with so formidable an animal; and much exertion was used before his riders succeeded in urging him on again in quest of the lion. At last, he became somewhat more tractable; but as he was advancing through the jungle, all of a sudden the lion, which had lain concealed in the high grass, made at him with redoubled fury. The officers now lost all hopes of keeping their elephant in order. He turned round abruptly, and was going away quite ungovernable, when the lion again sprung at him, seized his hinder parts with his teeth, and hung on them, until the affrighted animal managed to shake him off by incessant kicking.

The lion retreated farther into the thicket; Captain Woodhouse, in the meantime, firing a random shot at him, which proved of no avail, as the jolting of the elephant and the uproar of the moment prevented him from taking a steady aim. No exertions on the part of the officers could now force the terrified elephant to face his fierce foe; and they found themselves reduced to the necessity of dismounting. Determined, however, to come to still closer quarters with the formidable king of quadrupeds, Captain Woodhouse took the desperate resolution to proceed on foot in quest of him; and, after searching about for some time, he observed the lion indistinctly through the bushes, and discharged his rifle at him; but he was pretty well convinced that he had not hit him, for he saw the lion retire with the utmost composure into the thicker parts of the brake. The two lieutenants, who had remained at the outside of the jungle, joined their companion on hearing the report of his gun.

The weather was intolerably sultry. After vainly spending a considerable time in creeping through the grass and bushes, with the hope of discovering the place of the lion's retreat, they concluded that he had passed quite through the jungle, and gone off in an opposite direction. Resolved not to let their game escape, the lieutenants returned to the elephant, and immediately proceeded round the jungle, expecting to discover the route which they conjectured the lion had taken. Captain Woodhouse, however, remained in the thicket; and as he could discern the print of the animal's feet on the ground, he boldly resolved to follow up the track at all hazards. The Indian game-finder, who continued with his commander, at last espied the lion in the cover, and pointed him out to the captain, who fired, but unfortunately missed his mark. There was now no alternative left but to retreat and load his rifle. Having retired to a distance, he was joined by Lieutenant Delamain, who had dismounted from his elephant on hearing the report of the gun. This unexpected meeting increased the captain's hopes of ultimate success. He lost no time in pointing out to the lieutenant the place where he would probably find the lion, and said he would be up with him in a moment or two.

Lieutenant Delamain, on going eight or ten paces down a sheep-track, got a sight of the lion, and instantly discharged his rifle at him.

"Impetus est fulvis, et vasta leonibus ira!"

This irritated the mighty lord of the woods, and he rushed towards him, breaking through the bushes (to use the captain's own words) "in most magnificent style." Captain Woodhouse now found himself placed in an awkward situation. He was aware that if he retraced his steps, in order to put himself in a better position for attack, he would just get to the point from which the lieutenant had fired, and to which the lion was making; wherefore he instantly resolved to stand still, in the hopes that the lion would pass by, at a distance of four yards or so, without perceiving him, as the intervening cover was thick and strong. In this, however, he was most unfortunately deceived; for the enraged lion saw him in passing, and flew at him with a dreadful roar. In an instant, as though it had been done by a stroke of lightning, the rifle was broken and thrown out of the captain's hand, his left arm at the same moment being seized by the claws, and his right by the teeth, of his desperate antagonist. While these two brave and sturdy combatants, " whose courage none could stain," were yet standing in mortal conflict, Lieutenant Delamain ran up, and discharged his piece full at the lion. This caused the lion and the captain to come to the ground together, while Lieutenant Delamain hastened out of the jungle to re-load his gun. The lion now began to crunch the captain's arm; but as the brave fellow, notwithstanding the pain which this horrid process caused, had the cool, determined resolution to lie still, the lordly savage let the arm drop out of its mouth, and quietly placed himself in a crouching position, with both his paws upon the thigh of his fallen foe. While things were in this untoward situation, the captain, unthinkingly, raised his hand to support his head, which had got placed ill at ease in the fall. No sooner, however, had he moved it, than the lion seized the lacerated arm a second time, crunched it as before, and fractured the bone still higher up. This additional *memento mori* from the lion was not lost upon Captain Woodhouse; it immediately put him in mind that he had committed an act of imprudence in stirring. The motionless state in which he persevered after this broad hint, showed that he had learned to profit by the painful lesson.

He now lay bleeding and disabled under the foot of a mighty and an irritated enemy. Death was close upon him, armed with every terror calculated to appal the heart of a prostrate and defenceless man. Just as this world, with all its flitting honours, was on the point of vanishing for ever, he heard two faint reports of a gun, which he thought sounded from a distance; but he was totally at a loss to account for them. He learned after the affair was over, that the reports were caused by his friend at the outside of the jungle, who had flashed off some powder in order to be quite sure that the nipples of his rifle were clean.

The two lieutenants were now hastening to his assistance, and he heard the welcome sound of feet approaching; but, unfortunately, they were in a wrong direction, as the lion was betwixt them and him. Aware, that if his friends fired, the balls would hit him, after they had passed through the lion's body, Captain Woodhouse quietly pronounced, in a low and subdued tone, "To the other side! to the other side!" Hearing the voice, they looked in the direction from whence it proceeded, and to their horror saw their brave comrade in his utmost need. Having made a circuit, they cautiously came up on the other side, and Lieutenant Delamain, whose coolness in encounters with wild beasts had always been conspicuous, from a distance of about a dozen yards, fired at the lion over the person of the prostrate warrior.

The lion merely quivered; his head dropped upon the ground; and in an instant he lay dead on his side, close to his intended victim. The lieutenant's aim was so good and true that it puts one in mind of what happened at Chevy Chase—

"Against Sir Hugh Montgomery
So right the shaft was set,
The gray goose wing that was thereon
In his heart's blood was wet."

Thus ended this ever-memorable homo-leonine encounter. I beg to return my thanks to Captain Woodhouse for allowing me to avail myself of it. From what has been related, a proof may be drawn of the utility of lying quite still when we have the misfortune to be struck to the ground by an animal of the cat tribe.

I bade a long farewell to Captain Woodhouse and his two friends, Messrs Kavanagh and Pontardent, at Frankfort-on-the-Main. They were on their way to India, through Vienna and Constantinople. May honours, health, and wealth attend them!

HINTS TO ORNITHOLOGISTS.

MOST men have some favourite pursuit, some well-trained hobby, which they have ridden from the days of their youth. Mine is ornithology; and when the vexations of the world have broken in upon me, I mount it, and go away for an hour or two amongst the birds of the valley; and I seldom fail to return with better feelings than when I first set out. He who has made it his study to become acquainted with the habits of the feathered tribes, will be able to understand their various movements almost as well as though they had actually related their own adventures to him.

Thus, when I see the windhover hawk hanging in the air on fluttering wing, although it be at broad noonday, I am quite certain that there is a mouse below, just on the point of leaving its hole for a short excursion; and then I thank him kindly for his many services to the gardener and the husbandman, and I tell him that he shall always have a friend and a protector in me. Again, when I observe the carrion crow, in the month of May, sailing over the meadows with the sagacity of a spaniel, I know at once that somewhere or other she has a nest of hungry little ones to provide for, and that she is on the look-out for eggs, or for young birds, to supply their wants; and then I tell her I feel sorry from my heart that the pressing duty of providing for a large and ravenous family should expose her to the eternal enmity of man,—knowing full well that, at other seasons of the year, she is a real benefactress to him, by clearing his fields of a world of insects which feed upon their produce.

For reasons unknown to us, the birds are particularly vociferous, both at early dawn and at the fall of night. But when I hear the partridge uttering its well-known call in the middle of the day, I comprehend at once that it either sees bad company close at hand, in the shape of cats or weasels, or that its brood has been surprised and dispersed by some intruder; and that the individuals of the covey are then calling to each other, from the place of their retreat, in order that they may all meet again in some more secure and more sheltered quarter.

This knowledge of the habits of birds, which at once lets you into their little secrets, is only to be obtained by a constant attention to the notes and the habits of the feathered tribes in the open air. It can never be learned in the solitude of the closet. Those naturalists who pass nearly the whole of their time in their study, have it not in their power to produce a work of real merit. On the contrary, it too often happens that they do (most unintentionally, do doubt) a great deal of harm to science. Travellers, and now and then a foreigner, come to them, and desire that they will revise, or concoct, or prepare, a work for the press. They comply with the request. But having little or no knowledge themselves of the real habits of birds, they do not perceive the numberless faults in the pages which they are requested to prepare for the public eye. Hence it is that errors innumerable stare us in the face when we open books which profess to treat on the nature and the habits of birds.

What a world we live in! say I, when I read that turkey-cocks will break all the eggs of the females, for the purpose of protracting their future frolics; and that another species of bird flies away from the nest when the egg is hatched, in order to procure food for the young one. I tremble for the welfare of ornithology, when I am informed that the ornithologist, now-a-days, is not expected to climb lofty trees and precipices, in order to ascertain whether the birds which frequent them are in the habit of fabricating their own nests, or of using a natural cavity. We are gravely told it cannot be expected that field ornithologists should risk life and limb in order to ascertain such points. This is melancholy doctrine; and he who is determined to follow it must be content to remain in ignorance.

I cannot admit that the mere art of preserving the skin of a bird is sufficient to answer every scientific purpose; and I disagree with him who will not allow the study of internal anatomy to be the basis of the zoological system. We may measure the feet of preserved bird-skins with rule and compasses, and then draw the conclusion, from external appearances, that this foot, forsooth, is gifted by nature for grasping, and that for perching: but it will not do. Internal anatomy must be consulted. It alone can let us into the real secret, why *all* birds which frequent the trees can grasp a branch with the utmost facility, and sit securely there, without any fear of falling from it. See the barn-door fowl walking before us! No sooner does it lift its foot from the ground than the toes immediately bend inwards. From this natural tendency to contract, we draw the conclusion that a bird is in absolute security when it perches upon a branch. By means of this admirable provision of nature, the little delicate golden-crested wren can brave the raging tempest, on the top of the loftiest tree, in as perfect safety as the largest bird of the creation. Nothing can be more illusory than an attempt to judge of a bird's powers of perching by an external admeasurement of its feet and claws. Our speculation is unprofitable, and our judgment is of no avail whatever; for, after we have laid our rule and compasses down upon the table, and have left the house to take a walk into the fields, with a full conviction that we have learned our lesson from the dried skin of a bird, we find that the habits of one bird are utterly at variance with those of another, although the proportional anatomy of their feet and claws be exactly the same. Thus, we observe the ringdove sitting up aloft on the slender branches of the towering elm; but the dove-cot pigeon is never to be seen in so elevated a situation. Still, the feet of these two birds are alike. Our pheasant will sleep both upon the ground and upon the branch of a tree. But the partridge of England is never known to resort to the trees, although its toes differ in nothing but in size from the toes of the pheasant. It requires an effort in birds to keep their toes straight, and an effort in man to keep his fingers closed. Thus, from the study of internal anatomy, we learn that man can never be safe upon the branch of a tree, except when he is awake; and that a bird is perfectly secure upon it, even in the profoundest sleep. The barn-owl has been singled out as a specimen of pre-eminence in perching; and we are informed that, as it represents the insessorial or perching order, its powers of grasping ought to be more than ordinary. We consequently find, continues our informant, that one of the claws is serrated, to give the bird a firmer grasp than it would otherwise have. Now, this serrated part of the claw happens to be so high upon the claw itself, that it cannot, by any chance, come in contact with the branch to which the bird has resorted; and, as for this owl's pre-eminent powers of grasping, I may remark, that it is seldom or never seen upon a small branch. Nine times out of ten, it will alight upon the thick parts of the tree, where it remains in a standing position; and it will fall asleep in that position, if not disturbed. We shall never know why some birds prefer to sleep on the ground, and why others select the branch of a tree whereon to take their repose for the night. That the formation of the feet and toes has nothing to do with their choice appears evident from the different habits of the ringdove and the common pigeon, the partridge and the pheasant.

By the way, though the pheasant will unite with our barn-door fowl, and produce a progeny, still there is a wonderful difference in the habits of these two birds. The pheasant crows *before* it shakes or claps its wings, the barn-door fowl *after*. The pheasant never claps or shakes its wings except in the breeding season, and when it is on the ground; but the barn-door fowl will clap its wings either on the ground or on the roost, at all times of the year.

Should our grave doctors of zoology decide, that, by the study of external anatomy alone, we can be enabled to point out those birds which are supposed to be pre-eminently gifted with the powers of perching and of grasping, and should these our masters recommend that this novel study be applied to quadrupeds and to bipeds, as well as to birds, I respectfully beg leave to inform them that I have been gifted by nature with vast powers of leg and toe: I can spread all my five toes, and, when I am barefoot in the forest, I can make use of them in picking up sundry small articles from the ground. Having an uncommon liking for high situations, I often mount to the top of a lofty tree, there to enjoy the surrounding scenery; nor can I be persuaded that I risk "life and limb" in gaining the elevated situation. These, no doubt, are qualities and propensities aberrant from the true human type, and, according to the new theory, will at once account for my inordinate love of arboreal celsitude.

There is a bird in Guiana named kamichi. We call it the horned screamer. On its head grows a long, slender, and blunt kind of horn—if horn it can be called. We are informed, in a late publication, that the bird uses this horn as a means of self-defence against its enemies. La Mancha's knight, in his wildest mood for pike and helmet, never hit upon anything so extravagant as this. No bird ever makes use of the crown of its head, or of anything that grows thereon, as a means of self-defence. Even if the horn on the head of the kamichi were of a texture sufficiently strong to form a weapon of defence, still this bird would not want it, for it has tremendous spurs on its pinions, well adapted, and rightly placed, to punish an opponent.

Were we to estimate the powers of walking in the coots by the outward appearance of their feet, we might inform the public that "they are such bad walkers that they appear to stagger in their gait, and that they walk with difficulty and unsteadiness." But when we see them on land, every day throughout the winter, feeding on grass with the wigeons, except in a great fall of snow, we have proof positive, by their aptitude at walking, and by their velocity in running, that our judgment has been rash and that our theory is unsound.

We are informed that jays live more amongst the trees than upon the ground; and the arboreal propensity of this bird is inferred from the shape of its toes. Now let it be remembered that, with the exception of the short periods when garden fruits and acorns are ripe, this bird must be upon the ground to procure a maintenance. Here, where he is protected, he may be seen upon the ground at all hours of the day.

The common wagtail, too, is pronounced to be a "truly terrestrial bird," on account of the formation of his toes. Come hither, and you shall see the common wagtail in the daily habit of resorting to the trees.

Those who derive their knowledge of birds from the inspection of their external anatomy alone, may write on the use of bristles at the mouth of birds; and they may tell us that in proportion as birds partake of a vegetable and an insect diet, so are these bristles more or less developed. But the fallacy of this theory is manifest in the ordinary habits of the barn-door fowl, the wigeon, and many other birds. During the summer months, the barn-door fowl, whilst cropping the grass and herbs, will capture with the utmost facility and avidity every insect, great or small, or soft or hard, which is unfortunate enough to be within its reach. The diet of the wigeon is grass. Still neither the wigeon nor the barn-door fowl have bristles at the beak.

The claws of rapacious birds are pronounced to be "retractile." If they are so, then the knowledge of internal anatomy would force us to pronounce the claws of other tribes of birds, such as the robins, the doves, the barn-door fowls, and a thousand others, to be retractile.

The soldier must spend many a day amid the roar of hostile cannon, before he becomes qualified to command an army; the carpenter ought to work for years in the dockyard, ere he attempts to build a line-of-battle ship; and the schoolmaster has to pour over many a scientific volume, in order to prepare himself to teach the mathematics. But, somehow or other, it happens now-a-days, that practical knowledge does not seem to be considered essentially necessary for those who undertake to write on certain parts of natural history. Thus, some there are who will offer their history of birds to the public, although it can be ascertained that they have never been in the country which those birds inhabit. Others again, not having resided a sufficient length of time among the foreign birds which they undertake to describe, are perpetually giving statements at variance with the real habits of the birds. Thus the account which is given us of the habits of the toucan is wrong at all points, to say nothing of its tongue, &c. No man who has paid sufficient attention to the woodpeckers whilst in quest of food, will allow himself to be led away with the idea that these birds "break through and demolish the hardest wood." Give me the man who, after minute examination, has written his account of birds in the country where the birds themselves are found. Give me the man, I don't care of what nation, who has published his ornithological investigations without having first placed them into the scientific hands of those men who would fain persuade him that no work on ornithology can pass safely through the fiery ordeal of modern criticism unless it has previously received the polish of their own incomparable varnish.

Thus, in days of yore, old Apollo advised his son Phaeton to let his face be will smeared with celestial ointment, in order to make it fireproof, ere he mounted on the box of the solar chariot.

> "Tum pater ora sui, sacro medicamine, nati
> Contigit, et rapidæ fecit patientia flammæ."

But, notwithstanding this precaution, the lad got himself into a sad broil; and we know not what disasters his folly might have brought upon the world, had not mother Earth bestirred herself and persuaded Jupiter to stop his wild career. At her urgent entreaties, Jupiter felled him with a thunderbolt into the river Po, where, I understand, he got pretty well cooled. Would that we had a Jupiter here in England, with a birch rod in his hand, to tickle some of our zoological Phaetons! I would willingly act the part of mother Earth; and I would undertake to show, by sundry documents which have reached me through the medium of the press, that, if they be allowed to drive their new-fashioned vehicles on our good old zodiac much longer, they will disfigure it in such a manner that, at last, we shall not be able to distinguish the bull from the ram, or the beautifully tapering fingers on the hand of the virgin from the rough and crooked claws which arm the shell-bound body of the crab.

FLOWER-GARDENS AND SONG-BIRDS.

> "Inutilesque falce ramos amputans,
> Felicioris inserit." —HORACE.

> With pruning-knife, the useless branch he cuts,
> And in its place a graft prolific puts.

How I prize the gardener! He is nature's primest jeweller; and he has the power of placing within our reach all that is nutritive, and luscious, and lovely in the enchanting domains of Flora and Pomona. Without his assistance, nature would soon run out into uncurbed luxuriance; the flowery lawn would soon disappear, and erelong the hemlock and the bramble, with a train of noxious attendants, would lord it all around. To the industry, then, of the gardener we are indebted for scenes of rural beauty, quite unparalleled; and to his science we owe the possession of every wholesome fruit and root. In times, too, now long gone by, ere the ruthless Reformation smote this land, the gardener's nomenclature was truly Christian; for scarcely a flower, or shrub, or root, was known, the name of which did not tend to put us in mind of future happiness in the realms of eternal bliss. Hence the gardener is my friend; and wherever I have an opportunity of surveying lands which bear marks of his interesting labours, I wish him well from my heart, and I hope that he may not fail to receive a remunerating return for his many useful services to us. Were I asked my opinion of a highly-cultivated English flower-garden, I should say that it is the loveliest sight in rural nature; and, moreover, that if it afforded me an opportunity of listening to the song of birds, I should pronounce it little short of absolute perfection. But, in general, the charming melody of birds is of rare occurrence in the modern flower-garden; and I fear that any observations which I may make on this head will not have sufficient weight with them to attract attention to it on the part of the horticulturist. Nevertheless I will venture for once to offer a remark or two on a subject which always interests me; and, if what I shall say does not meet with general approbation, may I hope that my readers will give me credit for good intentions. I wish not to appear dictatorial. A few brief observations, penned down without the least intention on my part to be considered in the light of an innovator, will, I trust, not be wholly lost.

To me, whom kind Providence has destined to spend the best part of my time in the open air, the song of birds is soothing beyond expression; and whilst I am admiring the beauty of the rising flowers around me, I know no greater addition to my gratification than that of listening to it. How enchanting it is to inspect the early snowdrops, those "fair maids of February," whilst the stormcock is pouring forth his newly-acquired notes from the top of a neighbouring elm! and how delightful it is to hear cock-robin's carol on the thorn that affords a shelter to the humble primrose! The lilly of the valley, too, sweet, lovely, lowly daughter of May, how I gaze in ecstasy on its virgin whiteness, whilst the stranger cuckoo's note sounds through the dell, and insures me the return of warmer weather! The chaffinch too, and the whitethroat, and the thrush, and the blackbird, with pretty jenny-wren, and the hedge-sparrow, all add charms inexpressible, by their sweet voices, to the rising flowers of the dale. And this brings me to another bird, not seen now in this country, but interesting to us on account of the place which it occupies in Holy Writ. Its history is but little known to the world at large, and its identity is exposed to be called in question, on account of the name which it erroneously bears. The bird to which I allude is the Passer solitarius; in English, the solitary sparrow; and in Italian, passera solitaria. Would my readers lend a patient ear for a short time, they shall have both the history and the true name of this bird placed in a proper light.

The royal Psalmist, whilst bending down in penitential prayer before his offended Maker, exclaims, "Vigilavi, et factus sum sicut passer solitarius in tecto"—"I have watched, and am become as a sparrow all alone upon the house-top." I have often wondered what bird this could be, knowing, by daily experience, that it could not actually be the house-sparrow, for the house-sparrow is not solitary in its habits. I despaired of being able to trace its character satisfactorily, and I should probably have long remained in ignorance of it had I not visited the southern parts of Europe. My arrival in Rome let me at once into the secret. The bird to which the repentant king of Israel compared himself in the seven penitential Psalms is a real thrush in size, in shape, in habits, and in song; with this difference from the rest of the tribe, that it is remarkable throughout all the East for sitting solitary on the habitations of man. The first time I ever saw this lonely plaintive songster was in going to hear mass in the magnificent church of the Jesuits at Rome. The dawn was just appearing, and the bird passed over my head in its transit from the roof the Palace Odescalchi to the belfry of the Church of the Twelve Apostles, singing as it flew. I thought it had been the Italian blackbird, with notes somewhat different from those of our own; for its song was partly that of the blackbird and partly that of the stormcock, but not so loud as the last, nor so varied as the first. I found out my mistake in due time; and on seeing that the bird was the true solitary thrush, I paid particular attention to its habits. It is indeed a solitary bird, for it never associates with any other, and only with its own mate in breeding time; and even then it is often seen quite alone upon the house-top, where it warbles in sweet and plaintive strains, and continues its song as it moves in easy flight from roof to roof. The traveller who is fond of ornithology may often see this bird on the remains of the Temple of Peace, and occasionally in the Villa Borghese, but much more frequently on the stupendous ruins of the Baths of Caracalla, where it breeds in holes of the walls, and always on the Colosseum, where it likewise makes its nest; and, in fine, at one time or other of the day, on the tops of most of the churches, monasteries, and convents, within and without the walls of the eternal city. It lays five eggs of a very pale blue. They much resemble those of our starling. The bird itself is blue, with black wings and tail, the blue of the body becoming lighter when placed in different attitudes.

Whilst I lodged in the Palazza di Gregorio, this solitary songster had its nest in the roof the celebrated Propaganda, across the street "dei due Macelli," and only a few yards from my window. I longed to get at it, but knowing that the Romans would not understand my scaling the walls of the Propaganda, in order to propagate the history of the solitary thrush, and seeing, at the same time, that the hole at which the bird entered was very difficult of access, I deemed it most prudent to keep clear of the Propaganda, and to try to procure the nest from some other quarter. The many promises which Roman sportsmen had given me of a nest and eggs of the solitary thrush having entirely failed, and I myself not being able to go in quest of them on account of an attack of dysentery, which bore heavy on me, I despaired of obtaining the object of my wishes, and I should have left Italy without either nest or eggs, had not the Rev. Mr Cowie, vice-president of the Scotch College in Rome, exerted himself, as he had already often done, in the cause of natural history. This learned and worthy gentleman sent expressly for a nest to the vineyard of his college. It was found in the roof of the house, and had four eggs in it. The lad who took it had succeeded in capturing the female bird. Having examined the poor captive as minutely as though I had been a custom-house officer, I turned it loose into the world again, and as it flew away I hoped it would have better luck for the time to come. I sent the nest and eggs to England by a different route from that which I myself pursued. Had I taken them with me, they would have gone to the bottom of the Mediterranean Sea, for, in the night of the 16th of June 1841, my sisters-in-law, Miss Edmonstone and Miss Helen Edmonstone, my little boy, my servants, and myself, were wrecked off the Island of Elba. We had only fifteen minutes to save our lives before the vessel foundered, and we lost everything except the clothes on our backs.

The solitary thrush is seen in all the countries of the East, up to Syria and Egypt, and probably much farther on. This bird is solitary to the fullest extent of the word. It being an assiduous frequenter of the habitations of man, I cannot have a doubt but that it was the same bird which King David saw on the house-top before him, and to which he listened as it poured forth its sweet and plaintive song. Moved by its melody, and comparing its lonely habits with his own, he exclaimed, in the fulness of an afflicted heart, "Vigilavi, et factus sum sicut passer solitarius in tecto"—"I have watched, and am become as a *thrush*, all alone upon the house-top."

TREES, THE TITMOUSE AND THE WOODPECKER.

THE tree, that noble and gigantic son of earth, is the favourite resort of most birds; and so intimately is it connected with the charming science of ornithology, that he who has neglected to pay attention to it will often find himself at a loss to give correct information, in his description of the habits of the feathered tribes. The bloom, the fruit, the health and vigour of a tree, are interwoven with the economy of birds. Do you wish to have a view of seven or eight different species of colibri, collected at one tree? Wait, in patience, till the month of July; when a vast profusion of red flowers on the *bois immortel* (a tree well-known to every planter in

Guiana) invites those lovely creatures to a choice repast. Are you anxious to procure the pompadour, the purple-breasted and the purple-throated cotingas? Then, mark the time when the wild guava tree ripens its fruit; and on it you will find these brilliant ornaments of the forest. Is the toucan your object? You have only to place yourself, before the close of day, at the shaded root of some towering mora, whose topmost branches have been dried by age, or blasted by the thunderstorm, and to this tree the bird will come, and make the surrounding wilds re-echo to its evening call. Would you inspect the nest of the carrion crow? Brittle are the living branches of the ash and sycamore; while, on the contrary, those which are dead on the Scotch pine, are tough, and will support your weight. The arms of the oak may safely be relied on; but, I pray you, trust with extreme caution those of the quick-growing alder. Neither press heavily on the linden tree; though you may ascend the beech and the elm, without any fear of danger. But let us stop here for the present. On some future day, should I be in a right frame for it, I may pen down a few remarks, which will possibly be useful to the naturalist when roving in quest of ornithological knowledge. I will now confine myself to the misfortunes and diseases of trees; and I will show, that neither the titmouse nor the woodpecker ever bore into the hard and live wood.

Trees, in general, are exposed to decay by two different processes, independent of old age. The first is that of a broken branch, which, when neglected, or not cut off close to the parent stem, will, in the course of time, bring utter ruin on the tree. The new wood, which is annually formed, cannot grow over the jutting and fractured part, into which the rain enters, and gradually eats deeper and deeper, till at last it reaches the trunk itself. There it makes sad havoc; and the tree, no longer able to resist the fury of the tempest, is split asunder, and falls in ponderous ruins. But ere it comes to this, the titmouse will enter the cavity in a dry spring, and rear its young ones here. Now, if the diseased or fractured branches were carefully cut off close to the bole, you would see the new accession of wood gradually rolling over the flat surface, which, in time, would be entirely covered by it: and then the tree would be freed for ever from all danger in that quarter. The second process towards decay is exceedingly curious, and cannot well be accounted for. If it takes place to a serious extent, no art of man can possibly save the tree; and sooner or later, according to the magnitude of the disease with which it has been tainted, it will fall before the force of the raging winds. Should this disease be slight, the timely prevention of rain from penetrating the injured part will secure the tree from further mischief.

I must here observe that, in animated nature, the vital functions are internal; so that, if the part within be mortally wounded, death is the inevitable consequence. With most trees, and with all those of Britain, it is otherwise. Their vitality is at the periphery, connected with the bark, under which an annual increase of wood takes place, so long as the tree is alive. Should, however, the bark be cut away, the tree will die upwards from the place where all the bark has been destroyed. Not so with its internal parts. You may entirely excavate the interior of a tree; and provided you leave a sufficient strength of wood, by way of wall, in order that it may be able to resist the fury of the tempest without, taking care at the same time to exclude the rain, your tree will remain in vigour from generation to generation. The internal texture of a tree will perish without any notice by which we may be forewarned of the coming ruin. The disease which causes the destruction takes place in the oak; but more frequently in the sycamore; and most commonly of all in the ash. We will select this last tree by way of elucidation.

Often, when arrayed in all the bloom of vegetable beauty, the ash tree is seen to send forth from its bole, or from some principal branch, a small fungus, which, during the summer, increases to a considerable size. It ripens in the autumn, and falls to the ground when winter's rain sets in. The bark through which this fungus sprouted is now completely dead, though it still retains its colour; and that part of the wood from which it proceeded is entirely changed in its nature, the whole of its vitiated juices having been expended in forming and nourishing the fungus. Nothing remains of its once firm and vigorous texture. It is become what is commonly called touchwood, as soft and frangible as a piece of cork, which, when set on fire, will burn like tinder. In the meantime, the tree shows no sign of sickness; and its annual increase goes on as usual, till, at last, the new swelling wood closes over the part from which the fungus had grown, and all appears to go on right again. But ere the slow process arrives at this state the titmouse or the woodpecker will have found an entrance, and a place of safety for their incubation. They quickly perforate the distempered bark; and then, the tainted wood beneath it yields to their pointed bills, with which they soon effect a spacious cavity.

Here then we have the whole mystery unfolded. These birds, which never perforate the live wood, find in this diseased part of the tree, or of the branch, a place suitable to their wants. They make a circular hole large enough to admit their bodies, and then they form a cavity within sufficiently spacious to contain their young. Thus does nature kindly smooth the way, in order that all her creatures may prosper and be happy. Whenever I see these sylvan carpenters thus employed, I say to them, Work on, ye pretty birds; you do no harm in excavating there: I am your friend, and I will tell the owner of the tree that you are not to blame. But his woodman deserves a severe reprimand. He ought to have cut down the tree, in the autumn, after the appearance of the fungus.

On the island where this house stands, two stately sycamores have afforded ample proof of what I have advanced. One of these, some forty years ago, began to put on a sickly appearance, and I heard my father say that he expected to see it blown down in a heavy gale of wind. In the summer of 1800, I climbed up to the place where the brown owl formerly used to breed. The hole was full of water, in a branch leading from the bole, at about 20 feet from the ground. Presuming from appearances that the damage was extensive, I took a wimble and bored into the tree, at the height of 5 feet; then at 3 feet; and, lastly, I got a chisel, and cut into it at 3 inches from the walk. Twenty-four gallons of water, having the appearance of strong coffee, were procured from these apertures in the course of the day. After this, I put a cap of lead over the hole on the high branch above, leaving an entrance for the owl, should she ever come again; and I drove two long pieces of iron into the bole below the aperture, sufficiently low to form a floor for the owl's apartment, which I made with scraps of stone covered with sawdust. In the summer of the present year, 1835—thirty-five years from the first operation—I enlarged the lowest hole next the walk 4 inches; and, by the help of a little iron shovel, I took from the interior of the tree four large wheelbarrows full of decomposed wood, not unlike coffee-grounds in appearance. With this substance there came out some of the small scraps of stone which I had used in making the floor for the owl's residence—proof incontestable that the rain-water had gradually destroyed the internal texture of the sycamore, from the broken branch at the height of 20 feet. The tree, though hollow as a drum, "or lovers' vows," is now perfectly healthy. At a little distance from this is another sycamore, once a towering and majestic tree. Some fifteen years ago, it put out a fungus, about 25 feet from the ground. I saw, by the enormous size of the fungus, that the tree must give way erelong. In 1826, during a heavy gale of wind, it broke in two at the diseased part, leaving one huge branch, which continued to be clothed with rich foliage every succeeding season. I built a stonework on the remaining part of the trunk, by way of covering, and I made sixteen apartments in it for the jackdaws, planting an ivy root at the bottom. In the summer of 1831, another large fungus made its appearance at 8 feet from the ground. One Sunday morning, during a raging tempest, the trunk gave way at the fungus, carrying the remaining branch, the stonework, and the jackdaws' nests, with a tremendous crash, into the lake below. I roofed the remainder of the stump again, leaving an entrance for the owl. It is now quite covered with ivy, and has sent forth a partial vegetation annually from its last misfortune. In June of the present year, another large fungus came out at 4 feet from the ground. I understand the warning, and I clearly foresee that the final doom of this *statio malefida volucri* is close at hand. Thus have two sycamores, within a few feet of each other, been a prey to distinct diseases, and both of them afforded an inward retreat to birds. The first, having entirely lost its inside by the slow-consuming process of wet entering at a broken branch, still flourishes by the art of man. The second, for centuries the ornament of the rock upon which it grew, struck at last by the hand of nature with an inward distemper which nothing could arrest, broke down at intervals in partial ruins, and probably will disappear for ever during the next fierce wintry blast

There is still another process by which an entrance is prepared for birds in the boles of trees. Frequently a large branch fails without any apparent cause, and it remains dead on the tree for many years. At last down it comes, having given way close to the stem. On inspection, you will find that decay has entered deeply into the tree itself, without any aid from rain-water. The surrounding live wood, which kept swelling gradually while the dead branch remained on the tree, now that the obstruction is removed, begins to advance over the newly-exposed and distempered part. In the meantime, the birds find no difficulty in excavating this part, and there forming a place for incubation, or for a nocturnal residence. Mice and rats will also find their way into these diseased parts of trees. I know of a crab-tree in which a mouse lives. Its hole is about 5 feet from the ground.

I have written this paper—first, to show the true habits of the titmouse and the woodpecker relative to their choice of a place for their incubation; and, secondly, to catch the eye of the proprietor of the *American Quarterly Review*, who, I am informed, has thought fit to heap anonymous abuse upon me with an unsparing hand. Let this sage discerner of ornithological merit turn to pages 200 and 343 of the "Biography of Birds," and then blush for American ignorance.

AN ORNITHOLOGICAL LETTER TO WILLIAM SWAINSON, ESQ. F.R.S.

SIR, I have a crow to pluck with you. As we are both bird-men, the operation will cost us but little time and trouble.

A recent letter from Philadelphia refers me to your "History and Classification of Birds." "By the by," says the writer of the letter, "this knight of the sublime theory of circles (alluding to you) speaks rather disparagingly of the Yorkshire squire, whom he terms an *Amateur*."

I have borrowed your book, and on looking into it I find that you have introduced the names of a vast number of those who have written on birds. Of all these you have made friendly—of mine alone unfriendly—mention.

I am, beyond doubt, the person alluded to in your complaint of *unjustifiable* personalities against Mr Audubon; and I am the Amateur who went to Demerara merely to procure perfect skins, neglecting " all which could be truly beneficial to science." My invaluable prescription for the preservation of objects in natural history has received a solemn anathema from your mouth. You tell the world that I seem to think it a "modern discovery;" but lest there should be any merit due to it, you take care to introduce Sir James Smith, who, you say, strongly recommends it as a preservative against insects.

By the way, I have never in all my life read one single line from the pen of Sir James Smith.

Be all this as it may, the upshot is, that my unfortunate name is now stuck up by you, in the "Cyclopœdia" of the celebrated Doctor Lardner, without one solitary epithet which might entitle it to a nod of approbation from your far-famed employer.—Better not have introduced it at all.

When a man who is not sufficiently well armed espies a lynx slumbering in the woods, he immediately takes himself off, as quickly and as quietly as possible, lest by approaching too near he may disturb the animal, and thus be treated to an awful exhibition of his teeth and claws.

Though, from the place of my repose, I have more than once seen you bewildered and lost in the quinary labyrinth of your fond conceit of circles, and have had you completely in my power, still I have never thought of springing at you; because you did not appear to show symptoms of an attempt to break in upon my retreat.

But now, that you have not only aroused me from my slumber, but have even been incautious enough to take me by the beard, neither yourself nor your friends ought to be surprised if I lay a vengeful and a heavy paw upon you.

Pray, how can you venture to pronounce my personalities against Mr Audubon *unjustifiable?* In the same volume in which you have read the personalities you must have seen that his infatuated admirers never hesitated to indulge in personalities against me.

Audubon having given to the public an incorrect account of himself, I had a full right to comment upon that account, in order to show to the readers that the wilful inaccuracies which pervaded his autobiography ought to be a warning to them, how they put implicit confidence in the experiments which he says he made to prove the vulture's deficiency in the power of scent.* You tell us that he has silenced his opponents, and established in the most complete manner the accuracy of his first assertion. How well he has succeeded, will be seen by the note below.

If by styling me "an Amateur" you wish your readers to understand that I present my zoological information gratuitously to the public,—in contradistinction to yourself, who bring your own to the market,—then, indeed, the appellation might be received as a compliment; but, unfortunately, other passages in your work compel me to view it in no other light than that of a decided sneer.

Let me now take a cursory view of the Amateur Naturalist, and then of the trading Naturalist. The reader will not fail to perceive how much original information is to be acquired in the closet, and how much by ranging through the boundless fields of nature.

To say nothing of the zoological communications to be found in the "Wanderings," I have presented to Mr Loudon's invaluable *Magazine of Natural History* above sixty papers of original observations, made with the greatest care in Nature's lovely garden.

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* "William Sharp McLeay, Esq., a distinguished naturalist, and for the last ten years a resident in the Island of Cuba, is now in the United States on his way to London. Talking of the vulture, he said, in presence of Doctors Pickery, Griffiths, Mr Titian Peale, and the writer of this, that 'Waterton is right, and Audubon is in error. The Aura (vulture) is as common in Cuba as a barn-door fowl, and I am intimately acquainted with its habits. It was a singular coincidence, that on the very day in which I was reading the controversy, I had been examining some specimens of the large serpent named Python, and had thrown the carcasses, then in a state of putridity, into a remote part of the garden of my country residence, five miles from the Havanna, a spot so thickly shaded by mango bushes, that it would have been as possible for a vulture to *see through a wall* as to discover by sight the remains of the serpents; and yet, in so short a time, I beheld the vultures at a distance, sailing in the air, advancing towards the garden, where they alighted, and regaled themselves upon the stinking Pythons.'"—*Extract from a letter dated Philadelphia*, *May* 18, 1836.

After years of attention to the economy of birds, I have succeeded in getting the barn owl, the brown owl, the heron, the jackdaw, the magpie, the carrion crow, the mallard, the pheasant, the starling, the woodpecker, the ox-eye titmouse, the waterhen, the thrush, and the blackbird, to build their nests, and take away their young in safety, at a stone-throw of each other.

I have pointed out the duck and the drake clothed in the same plumage only for a very short time in summer. I have noted down the morning and evening flight of the rook in this district, which evolution may be seen every day for six months in the year ; and I have cleared up the mystery of the loss of feathers which this useful bird experiences at the base of its bill. I have shown which birds cover their eggs, and which birds never cover their eggs at all, on leaving the nest. I have shown that one hawk never molests the feathered tribes ; and that another (scarcely to be distinguished from this when on the wing) destroys them indiscriminately. I have shown that the wigeon feeds by day, eating grass like a goose ; whilst its congener, the mallard, invariably refuses this food, and seeks for its sustenance by night. I have given to the public an entirely new method of preserving the eggs of birds for cabinets ; and I have pointed out a process for preparing insects, so that they will never corrupt, or be exposed to the depredations of the moth, or be affected by damp.

I have written on the landing, the career, and the depredations of the Hanoverian rat in this country. I formerly delivered in Leeds a very long lecture, to show the necessity of reform in Museums both at home and abroad ; proving, at the same time, how specimens might be prepared on scientific principles. I have shown *how* a man ought to fight the feline, and *how* the canine, tribe of animals. All this, and much more, has been conveyed in language so plain and simple, that a schoolboy in rudiments can understand it.

Now let us peep into the "Natural History and Classification of Birds" by the Market-Naturalist.

You have given us a series of circles, which would puzzle Sir Isaac Newton himself ; and which will tend to scare nine-tenths of the votaries of ornithology clear out of the field.

Your nomenclature has caused me the jaw-ache.

Gampsonyx Swainsonii, Lophophorus, Tachipetes, Pachycephala, Thamnophilinæ, Dendrocolaptes, Myïagra rubiculoïdes, Ceblepyrinæ, Ptilonorynchus, Opistholophus, Palæornis, Meliphagidæ, Eurylaimus, Phalacrocorax, and a host of others.

Your criticisms are really unpardonable.

What you have given us in the book before me, concerning Mr Audubon, is utterly at variance with that which you gave on his first arrival amongst us.* You have thought fit to laud one man exceedingly for his zoological acquirements, who, to my certain knowledge, paid other people for the letterpress and drawings which were to appear in his work. You raise expectations in your readers, that ornithological information from Demerara (information "passed over by the mere Amateur") will be procured ere long by an individual engaged in an exploring expedition up the country; when you ought to be aware that the very nature of an exploring expedition precludes the possibility of procuring satisfactory information of birds, whose economy is so varied, whose nidification is so mysterious, and whose plumage is so perpetually on the change.

I myself have passed years in the heart of that country; still I could never obtain the least insight into the incubation of the Chatterers; whilst the appearance of some birds, and the disappearance of others, without any visible cause, used to puzzle me beyond measure.

I have killed the large gray pelican on the coast of Paumaron, where it never breeds; but I was told that I should find its nest at the mouth of the Oronoque. The Indians there knew nothing of its nidification; and though the bird was plentiful at Antigua, not a soul could direct me to its breeding-place.

Under these apparently insurmountable embarrassments, I could never bring my mind to give to the public a general history of the Demerara birds.

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* In July 1828, Mr Swainson tells us that Audubon "drank of the pure stream of knowledge at its fountain head."—See his criticism appended at the end of Audubon's "Biography of Birds." In 1836, Mr Swainson tells us that Audubon's "scientific descriptions are destitute of that precision and detail which might have been expected in these days."—See Lardner's "Cabinet Cyclopædia, Natural History of Birds," by William Swainson, Esq., vol. i. ALAS! POOR AUDUBON!

You might have spared yourself the lamentation, that Demerara has only been visited by amateurs, "*whose sole object* seems to have been that of procuring perfect skins," had you but called to your recollection the contents of one of your former letters to me. I had sent you some pages, replete with notices, on the habits of birds in Demerara. For this you returned me abundant thanks; and having highly complimented me on the extent of my ornithological knowledge, you begged hard for a fresh supply; adding at the time, that I should thus be of the utmost service to you, as you had a project in your head of writing the history of the Demerara birds.

Knowing that you had never been in that country, this piece of information so astounded me, and appeared to me so presumptuous withal, that I began to think it was high time to drop the correspondence.

By the way, when you and I did correspond, *that* was the proper time for you to have informed me that my solution of corrosive sublimate in alcohol had failed,* and then I would have gently pointed out to you the error into which you had fallen. But after I had imparted the discovery to you in so liberal and so friendly a manner, say, was it generous in you to have sealed up the supposed evidence of its failure in your vinegar-bottle, to be squirted at me, on some future day, through the medium of the doctor's Cyclopædia?

Your theory on parts of the plumage of birds is very unsound.

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* "I made the following experiment with Mr Waterton's composition when in Brazil. The ants which swarmed in a room I inhabited at Pernambuco had committed great devastation amongst the prepared insects and birds. Whilst preserving one of the latter, I cut off a piece of the flesh, and, after saturating it with the composition, laid it on the path which led to one of their holes. The little creatures seemed at first to be somewhat suspicious of its wholesomeness; but after walking about and upon it, and examining it with their antennæ, they seemed to pronounce a favourable verdict; for one and all began dragging it away to the entrance of their nest, where it soon disappeared beneath the earthen floor. The experiment was repeated three times, and the same result followed. The mixture had been brought from England, and I had no reason to believe that it was defective in the preparation," &c.—See Lardner's "Cabinet Cyclopædia, Natural History of Birds," by W. Swainson, Esq., vol. i.

In speaking of the vulture, you remark—"But that those parts of the bird which come in contact with its offensive food should not be soiled and matted together; the whole of the head (and particularly a great part of the neck) is entirely destitute of feathers."

When you made this erudite discovery in Nature's economy, were you quite ignorant that the little feathery-footed bantam, whose plumage reaches beyond the toes, may be seen half-leg deep in dirty ditches, and at the mouths of the filthiest sewers? Why, then, should careful Dame Nature deprive the vulture of a cravat lest it should be soiled by carrion, and at the same time supply the bantam with warm stockings, which she well knew would be encrusted with nastiness whenever there was an opportunity to walk into it? The Dame, too, ought to have deprived the rough-haired spaniel of his shaggy waistcoat; for she must have known that this brute would anoint himself with purulence from rotten carrion as often as within his reach.

Your lucubration on the eyes of the owl comes next under consideration.

"The eyes of this bird," you say, "in the first place are of enormous size." Nobody doubts it. "But as if this was not sufficient," you continue, "they are surrounded with two large concave disks, generally composed of white and shining feathers, for the purpose of concentrating a greater extent of light to be reflected upon the eye, which is placed in the centre. There can be little doubt on this being the true use of the facial disk in owls, although the circumstance appears never yet to have been touched upon."

I should wonder if it had.

Supposing your theory to be true—then, indeed, has Dame Nature most cruelly punished your "type," the barn owl; for even in the month of June she directs this bird to hunt for mice, and she shows it how to catch them when the sun is blazing in a cloudless sky.* This I myself have seen repeatedly. To what intense pain must this poor bird be doomed, if its feathery "facial disk" has the power of reflecting the burning rays of the sun upon its eye! If the "facial disk" could effect this, the barn owl would assuredly be aware of it; and she would either, in common prudence, keep her room till nightfall, or borrow a parasol to protect her eyesight from the flaming luminary.

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* "Owls of this group are *eminently* nocturnal."—SWAINSON.

If the Dame judged it necessary to furnish your "type" with this "facial disk" in order to increase its power of nocturnal vision, we must lament that the bittern, the heron, the wild duck, and many others have been sadly neglected by her; for none of these birds have that which you term facial disk, still they all search for food in the darkest night, and wing their way in safety through the darkest sky.

If my humble opinion of your "Natural History and Classification of Birds" were asked, I should answer, without hesitation, that many parts of it would puzzle much clearer intellects than those contained in my own brain-pan; that other parts are vastly overstrained, and that others are exceedingly erroneous. Indeed, on a close inspection of it, I could fancy that the whole has been compiled from books, and from dimensions taken from the dried skins of birds.

Reviewers may pronounce it eminently scientific; but then they must only expect an assent to their decision from the mouths of the marines; for, "shiver my timbers," says Jack, "if the sailors will believe them."

I will now pass cursorily on to your "Process of Preservation."

I remember well the day on which your father (whom I much respected) invited me to spend an evening at his house in Wavertree, near Liverpool. "I have a son," said he to me, "who seems to have a great turn for natural history, and I should feel much indebted to you if you would come and spend the evening with us." "Most willingly, sir," said I, and so I went to Wavertree.

On that evening, when I saw you for the first time, I imparted to you whatever I thought would be of service, as though you had been a valued and an old acquaintance. It was then that I strongly recommended to you, for your zoological preparations, the constant use of corrosive sublimate dissolved in alcohol.

When we met again, after a considerable period, you showed me a quantity of bird-skins which you had collected in Brazil. They were exceedingly bad; and on looking at them I said to myself, Ah! I see that I must have been beating on cold iron when I was imparting my instructions to Mr William.

When you found, during your stay in Pernambuco, that the solution which you had carried out with you from England was of no avail against the thrice-repeated attacks of the ants, did you not suspect that you might possibly have got it made too weak? Had you stepped for a minute into the nearest chemist's shop, and procured a little more corrosive sublimate, your solution would then have done its duty in the most satisfactory manner. When I was in the Brazilian towns and forests, the ants never injured my specimens in natural history.

As you have introduced the name of Sir James Smith, apparently to deprive me of any little merit due to the discovery of applying this solution; tell me, candid Sir, had you then learned, or have you since learned, that Sir James, or any other person, had applied it to birds, to quadrupeds, to serpents, to fishes, to wood, to clothes, to hats, to insects, to the lining of carriages, to furs, and to ornamental feathers? To all which articles, I had been in the habit of applying it for many years before you received from me your first lesson, in your father's house at Wavertree.

If you have ascertained the fact, then, your paragraph in Doctor Lardner will be less objectionable; still, give you what credit I may, methinks you have ill-requited the former kindness of your disinterested Mentor.

You recommend the use of arsenic soap, "from long experience!" and a little after you prove its deficiency, by acknowledging that "a box, strongly impregnated by camphor, or the oven," must be used when you find it necessary to place your skins "in quarantine." Why in quarantine, Mr Swainson? What! have your skins got the plague of insects amongst them, after they have been smeared with your wonderful arsenic soap, which you recommend "from long experience?"

I have read over your "Process of Preservation," certainly with more attention than it deserves, and I find it wrong at every point. I am quite prepared to prove, that he who adopts it can never, by any chance, succeed in producing a specimen that will bear a scientific inspection. His preparations will be out of all shape and proportion. If they should consist of birds, they will come out of his hands a decided deformity. If of quadrupeds, they will represent hideous spectres, without any one feature remaining similar to those which they possessed in life.

By rejecting the solution of corrosive sublimate in alcohol, you have most effectually deprived the operator of a threefold and an essential advantage. By assuming the arsenic soap, you have exposed him to injure his own teeth; whilst the adhesion of the soap itself to the inside of the skin which he is preparing will indubitably frustrate every attempt to restore the original form and features.

Will you meet me in some public lecture-room, and argue this matter? I will produce proof sufficient to satisfy the most incredulous person that I am right in what I have just advanced; and ere we leave the room, I trust that I shall be able to show how much I have gained by resorting to the field of Nature, and how much you have lost by retiring from it.

Perhaps nothing will operate so much against you, in your zoological career, as your unlucky encomiums on the drawings, and on the supposed writings, of Mr Audubon. Of the first (talking of his publication), you remark that it exhibits "a perfection in the higher attributes of zoological painting never before attempted." Of the last, you say that his observations "are the corner-stones of every attempt to discover the system of nature."

Let us peep at the drawing of the rattlesnake, in the act of attacking a mocking-bird's nest.

After having passed the most puerile praises on that of his Carolina doves, you exclaim, "The same poetic sentiment and masterly execution characterise this picture." Poetic—most assuredly. The whole group is a mockery of anything that ought to represent a correct and faithful zoological fact. The snake is a fabulous Hydra with its eyes starting out of their sockets; and only think! the fangs are actually turned *upwards* instead of *downwards.*

Mr Audubon tells us that he confined a rattlesnake for three years in a cage; that he was in the habit of feeding it; and that he measured it with accuracy. Hence we must deem him eminently qualified to describe correctly this well-known reptile. Mr Swainson, too, a learned doctor in zoology, who constantly refers us to his own works, has no slight pretensions, one would suppose, to speak authoritatively on such a subject.

But with this chimerical rattlesnake before us, what must we think of the *artist* who figured it, or of the *critic* who lauds it to the skies? With this thing of phantasy staring us in the face, what guarantee have we for the correctness of one single production from the crayon of John James Audubon, F.R.SS., L. & E., or what pledge for the soundness of one line of criticism from the pen of William Swainson, Esq., A.C.G., F.R.S., L.S.?

When you meet Mr Audubon, you might just ask him whether this outrageous group of his was the effect of sheer ignorance, or whether he manufactured it through a mischievous inclination to play upon the inexperience of his customers? But no, that won't do; for your friend is acute enough in some things; and he may possibly put a similar question to yourself on the score of ignorance, or of delinquency in criticism. This, you know, would throw you into a quandary. Ah, well-a-day, how cruelly has this American snake of Audubon's bitten our wise men of London and of Modern Athens!

I have always been of opinion that it was your hand (see Loudon's *Magazine of Natural History*, vol. vi., p. 550) which guided young Audubon's pen against me in the affair of the vulture's nose; and I have purposely introduced your unfortunate encounter with his father's rattlesnake by way of balancing the account.

Believe me, sir, you have a vast deal to learn before you become an adept in ornithology. Fidelity and simplicity are all that is wanted to render this pleasing study attainable to every one. But you seem to think otherwise. However, let me tell you frankly that the admeasurement of ten thousand dried bird-skins, with a subsequent and vastly complicated theory on what you conceive you have drawn from the scientific operation of your compasses, will never raise your name to any permanent altitude. You seem formerly to have had a foresight of what I have just announced to you, for, in speaking of Wilson and Audubon, you exclaim, "Their writings will be consulted when our favourite theories shall have passed into oblivion." See your own review of Audubon, which he has appended to his first volume of the "Biography of Birds."

But it is now full time to draw to a close, and to leave other errors for another day.

We are told that Nature is the best of guides. I believe it.

Climb then, with me, the loftiest trees; range the dreary swamp; pursue the wild beasts over hill and dale; repair to alluvial mud-flats; follow the windings of creeks, and of the sea-shore; and get yourself let down the tremendous precipice in quest of zoological knowledge. Worst come to the worst, this will at least gain you the appellation of "Amateur" from the pen of supercilious theorists; an honour not to be sneezed at in these our latter times.

During your peregrinations, should you chance to fall in with your American friend,—who, you inform us, has pursued painting and the study of Nature "with a genius and an ardour of which, in their united effects, there is no parallel,"—do not fail to ask him how it came to pass that when he added so largely to the wing of his bird of Washington, he quite forgot to supply its tail with a proportional elongation.

If you find him communicative and in a good humour, you might have a chat with him about his great horned owl, which, "at the least noise, *erects* the tufts of its head." Our owls *depress* their tufts when disturbed. But, for the life of you, don't say one word about the multifarious group of wild beasts, which were present till after day-break at the great pigeon slaughter; where, he says, the noise was so deafening, that "even the reports of the guns were seldom heard." This would put him out of temper, and it might lead to "unjustifiable personalities," by seeming to question his veracity.

I trust you are now convinced that when you feel averse to place a man's name in a favourable point of view, and at the same time have no absolute necessity for putting it in an unfavourable one, the safest plan to be pursued is to place it in no view at all. Had you not introduced me to Dr Lardner in so unhandsome a manner, I should have been the last man in the world to interrupt you in your complicated theory of circles, and of types primary, types aberrant, types grallatorial, types tenuirostral, types rasorial, and types suctorial.

In truth, I should really consider it lost time in me were I to descant on the incomprehensibility of your *favourite theories*, seeing that they have already heard the solemn proclamation of their death-warrant from your own lips. (*Vide* foregoing page of this letter.)

I could wish to introduce a word or two here, on your want of knowledge concerning the habits and anatomy of the Toucan, but am obliged for the present to defer them. I am, Sir, your obedient servant, CHARLES WATERTON.

WALTON HALL, *March* 10, 1837.

LETTER TO A BOOKMAKER.*

WALTON HALL, NEAR WAKEFIELD,
June 28, 1863.

MY DEAR SIR,—I have just returned from a week's visit into Wharfdale. There seems to be a strange misunderstanding relative to the "Wanderings," and if I have ever written to you anything expressive of a wish to have a strange edition of them, I must have been under an hallucination. I could have written ten volumes as easily as one. My sole object (having no patronage, nor any help from any mortal man) was to incite the reader to go and wander in that far distant region, and give a true and interesting account of his adventures. Hence I press upon his mind that *my own account is nothing but a sketch.* See page 22, 4th edition of the "Wanderings." I could have given the scientific name, and the Indian name of every bird and beast, but I carefully refrained from doing so. I gave the world an original and scientific account, written down in pencil at the close of every day; not to be adonised, and filled full of vagaries in an English printing-office. Hence, when I gave over the manuscript to Mawman (the price given was to be distributed in charity), he solemnly promised me that he would never allow one single syllable to be changed; and when I made a present of the "Wanderings" (reverted to me by lapse of time) to old Mr Fellowes, he made the same promise as Mr Mawman had done before him; and that same promise is now continued by his son Thomas, 39 Ludgate Street, Ludgate Hill; and we both rejoiced that "Waterton's Wanderings" had not been sullied by caricatures or mystified by notes of closet-naturalists. I have carefully examined the notes, and additions, and drawings which you have sent me, and which I return by this day's post. They will not do. The drawings are very faulty. Accoways never drink pywarri, or by some called pioio, out of a boat, as drawn by T. H. Berman. It would never do for me to be beholden to the knight for scenes, &c. I could produce volumes of scenes, illustrated in the forests by myself. In a word, my "Wanderings" are truly and really an original work, and I will never consent to see them defiled or misrepresented by any mortal man.—In great haste, believe me, my dear Sir, very truly yours,

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* Waterton wrote many letters in which he exposed the errors or refuted the attacks of closet-naturalists. I have selected this from a large series, in hopes that its publication may for ever preserve the "Wanderings" from the injury to which it refers.—[ED.]

CHARLES WATERTON.

BIRDS' EGGS.

"Si sumas ovum, molle sit, atque novum."—*Schola Salernitana.*

I HAVE been blundering at this work for some years, "seeking for something I could not find," and always dissatisfied with myself on account of the failure. The object of my search was to try to find out how I could properly dispose of the thin white membrane next the shell of the egg. When left in, it is apt to corrupt; in which case, the colour of the shell will sometimes fade, and an offensive smell is produced, which a lapse of years will not subdue. Last spring I thought I had succeeded; but it turned out to be a very partial success. I, first, by blowing, discharged the contents of five swan's eggs, and then immersed the shells in a tub of water for a month. This enabled me to pull out the thin membrane by means of a piece of wire bent at the end. But I found that the colour of the shell had faded considerably. Moreover, the process required too much time; and I saw that there would be great difficulty in doing small eggs.

About three weeks ago, a bright thought (a *rara avis* with me) struck me, just as I was in the act of climbing up to a hawk's nest. I felt certain that every difficulty had vanished, and I began to blame myself on the score of former dulness.

In selecting eggs for your cabinet, always choose those which are newly laid. Make a moderately-sized hole at the sharp end, with a pointed instrument proportioned to the egg. Thus, for a swan's egg, use the point of your penknife; for a robin's, take a small pin. Having made the hole at the sharp end, make one at the blunt end, and let this last hole be as small as possible. This done, apply your mouth to the blunt end, and blow the contents of the egg through the sharp end, where the hole is larger. If the yoke will not come out freely, run a pin or a wire up into the egg, and stir the yolk well about. Now get a cup full of water, and, immersing the sharp end of the shell into it, apply your mouth to the blunt end, and suck up some of the water into the empty shell. Then put your finger and thumb upon the two holes, shake the water well within, and, after this, blow it out. The water will clear your egg of any remains of yolk or of white which might stay in after the blowing. If one sucking up of water will not suffice, make a second or a third.

An egg, immediately after it is produced, is very clean and pure; but by staying in the nest, and by coming in contact with the feet of the bird, it soon assumes a soiled appearance. To remedy this, wash it well in soap and water, and use a nail-brush to get the dirt off. Your egg-shell is now as it ought to be; and nothing remains to be done but to prevent the thin white membrane (which is still inside) from corrupting.

Take a wine-glass, and fill it with the solution of corrosive sublimate in alcohol. Then immerse the sharp end of the egg-shell into it, keeping your finger and thumb, as you hold it, just clear of the solution. Apply your mouth to the little hole at the blunt end, and suck up some of the solution into the shell. You need not be fearful of getting the liquor into your mouth; for, as soon as it rises in the shell, the cold will strike your finger and thumb, and then you cease sucking. Shake the shell just as you did when the water was in it, and then blow the solution back into the glass. Your egg-shell is now beyond the reach of corruption; the membrane retains for ever its pristine whiteness; and no insect, for the time to come, will ever venture to prey upon it. If you wish your egg to appear extremely brilliant, give it a coat of mastic varnish, put on very sparingly with a camel-hair pencil. Green or blue eggs must be done with gum arabic; because the mastic varnish is apt to injure the colour.

This is all. How dull I have been, not to have found out this simple process long ago! I have used the solution to preserve skins, furs, and feathers from putrefaction and the moth, for nearly twenty years; still the idea never struck me, till three weeks ago, that it could be so servicable in preventing all tendency to putrefaction in the membrane of the shell, which had given me so much trouble, and caused so many useless experiments. I trust that the kind-hearted naturalist will not turn this little process of preparing eggs into affliction to poor birds. One egg out of each nest (with a few exceptions) will not be missed by the owner; but to take them all away would be hard indeed. Such an act would make the parent bird as sad and sorrowful as Niobe. You know Niobe's story: Apollo slew her every child.

My friend George Walker, of Killingbeck Lodge, thinks that copal varnish is better than mastic varnish for eggs.

I have made an improvement in blowing larger kinds of eggs. I find that one hole is sufficient. When that hole is made, introduce a straight wire, with a little piece of dry cotton or thread tied round the end introduced. Then, holding the egg with the hole downwards, you use the wire, which acts as a piston, and forces a sufficient quantity of the contents of the egg out, to enable you to get out the rest by sudden jerks. This is a much longer process than blowing; but you have the advantage of having only one hole in your egg instead of two.

METHOD OF PRESERVING INSECTS.

I ONLY know of two methods to guard prepared insects from the depredations of living ones. The first is by poisoning the atmosphere; the second is by poisoning the preserved specimens themselves, so effectually, that they are no longer food for the depredator. But there are some objections to both these modes. A poisoned atmosphere will evaporate in time, if not attended to, or if neglected to be renewed; and there is great difficulty in poisoning some specimens on account of their delicacy and minuteness. If you keep spirits of turpentine in the boxes which contain your specimens, I am of opinion that those specimens will be safe as long as the odour of turpentine remains in the box; for it is said to be the most pernicious of all scents to insects. But it requires attention to keep up an atmosphere of spirits of turpentime. If it be allowed to evaporate entirely, then there is a clear and undisputed path open to the inroads of the enemy: he will take advantage of your absence or neglect, and when you return to view your treasure, you will find it in ruins. Spirits of turpentine, poured into a common glass inkstand in which there is a piece of sponge, and placed in a corner of your box, will create a poisoned atmosphere, and kill every insect there. The poisoning of your specimens by means of corrosive sublimate in alcohol is a most effectual method. As soon as the operation is properly performed, the depredating insect perceives that the prepared specimen is no longer food for it, and will for ever cease to attack it. But, then, every part must have received the poison; otherwise those parts where the poison has not reached will still be exposed to the enemy; and he will pass unhurt over the poisoned parts, till he arrive at that part of your specimen which is still wholesome food for him. Now, the difficulty lies in applying the solution to very minute specimens, without injuring their appearance; and all that can be said is, to recommend unwearied exertion, which is sure to be attended with great skill; and great skill will ensure surprising success. I myself have attended to the preservation of insects with the assiduity which Horace recommends to poets:—"Nocturnâ versate manu, versate diurnâ." The result has been astonishing success, and a perfect conviction that there is no absolute and lasting safety for prepared specimens in zoology, from the depredations of insects, except by poisoning every part of them with a solution of corrosive sublimate in alcohol. I put a good large teaspoonful of well-pounded corrosive sublimate into a wine-bottle full of alcohol. I let it stand overnight, and the next morning draw it off into a clean bottle. When I apply it to black substances, and perceive that it leaves little white particles on them, I then make it weaker by adding alcohol. A black feather, dipped into the solution, and then dried, will be a very good test of the state of the solution. If it be too strong, it will leave a whiteness upon the feather.

A preparation of arsenic is frequently used ; but it is very dangerous, and sometimes attended with lamentable consequences. I knew a naturalist, by name Howe, in Cayenne, in French Guiana, who had lost sixteen of his teeth. He kept them in a box, and showed them to me. On opening the lid—"These fine teeth," said he, "once belonged to my jaws: they all dropped out by my making use of the *savon arsenetique* for preserving the skins of animals." I take this opportunity of remarking that it is my firm conviction that the *arsenetical soap* can never be used with any success, if you wish to restore the true form and figure to a skin.

I fear that your correspondent may make use of tight boxes and aromatic atmospheres, and still, in the end, not be completely successful in preserving his specimens from the depredation of insects. The tight box and aromatic atmosphere will certainly do a great deal for him ; but they are liable to fail, for this obvious reason, viz., that they do not render, for ever, absolutely baneful and abhorrent to the depredator, that which in itself is nutritious and grateful to him. In an evil hour, through neglect in keeping up a poisoned atmosphere, the specimens collected by your correspondent's industry, and prepared by his art, and which ought to live, as it were, for the admiration of future ages, may fall a prey to an intruding and almost invisible enemy; so that, unless he apply the solution of corrosive sublimate in alcohol, he is never perfectly safe from a surprise. I have tried a decoction of aloes, wormwood, and walnut leaves, thinking they would be of service, on account of their bitterness; the trial completely failed. Wherefore, in conclusion, I venture to recommend the preserver of insects not to put much trust in simples.

"Contra vim mortis, non est medicamen in hortis."
Against the deadly moth, can I,
From herbs, no remedy supply.

It having been stated that the solution I have recommended above "cannot be applied to the outside of most insects (especially Libellulæ), without, in course of time, injuring their colours," I request attention to the few following observations:—There are two grand distinctions to be made in the colours of insects. Those colours which originate from without, as in the moths and butterflies, remain unimpaired in pristine splendour after death, until they are destroyed by force or by accident. On the other hand, those colours which have their source from within, and proceed from moist substances, gradually fade after the death of the insect; and, in some cases, even totally disappear, when the substances from which they drew their origin have become dry and hard. By long experience, I know that the colours of insects which are produced internally, as in the red dragon-fly of Guiana, cannot be made permanent by any process after the death of the insect; but those colours can be renewed with great and durable effect. Suppose your correspondent were to take an English dragon-fly (which I must inform him I have never dissected), and sever the head from the thorax, the thorax from the abdomen, and then subdivide the abdomen at every third ring, this would enable him to clear away all the moist internal parts, from whence the colours draw their source. A nearly transparent shell would remain; and he would only have to introduce into it colours similar to those which the insect exhibited in life, after having washed it well with the solution. The joining again of the dissected parts would complete the process. All this appears difficult; still, it may be effected. I have read somewhere of a Frenchman who could harness a flea: I myself have dissected the Cayenne grasshopper, and renewed its colours with great success. In 1808, after dissecting the bill of the toucan, I completely succeeded in renewing the blue, which had been removed by the knife; and I believe the specimen which I produced was the first ever exhibited in its renewed colours since the discovery of America. In the "Wanderings" is a full account of this.

With regard to using the spirit of turpentine in preserving insects, I can only say, that I have long and successfully made use of the spirit of turpentine. In 1808, having tried many useless experiments to expel living insects from dead ones, and from other preparations in natural history, on opening one day an old magazine (I forget now of what denomination) in a planter's house in Essequibo, I read the following remark:—"Spirit of turpentine is known to be the most fatal poison to insects." Taking it for granted that the spirit was fatal through an atmosphere—as I was sure no insect would drink it voluntarily, and I did not see how it could be forced down their throats—I put some spirit of turpentine into a trunk of preserved skins of birds, and into which the moth had found its way. The next morning, I saw that the spirit of turpentine had killed all the moths. In the course of time, the use of the corrosive sublimate in alcohol succeeded to this, and rendered the spirit of turpentine wholly unnecessary, wherever the sublimate could be applied to every part of the preserved specimen. But as on some occasions I only washed the inside of the skins, and, in this case, the feathers themselves, not having received the poison, were still liable to injury from insects, especially in tropical climates, I always took the precaution to have spirit of turpentine in the box. In order to make myself clearly understood, I will describe exactly what I did. I bought common hair trunks which are sent out with goods from Europe to South America; I strewed the bottom of the trunks with cotton, upon which I placed the preserved bird-skins, and the different insects which I had collected. Both birds and insects were placed promiscuously in the same trunk. I then saturated a piece of sponge with spirit of turpentine, and hung it up in a corner of the trunk: I renewed this spirit from time to time. From that period to this, no living insect has been detected in the trunks. The plumage of the birds is as vivid as it was at the time I shot them; and the moths and butterflies as splendid as when in life; but most of the other insects, except some of the beetles, have faded. Thus I am enabled to say, by actual experiment, that the atmosphere of spirit of turpentine will allow neither acarus nor any insect to live in it; and, moreover, that it does not injure the colour of preserved birds, and furs, and insects, provided they do not come in contact with the spirit of turpentine.

I have used corrosive sublimate in paste for years; I have applied the solution to my hat, and to the long Indian arrows (which are very subject to be eaten by the worm), with complete success; and here, in Europe, with equal success, I have applied it to ladies' ostrich feathers, to camel-hair brushes, and to the lining of my carriage. The solution has been the remote cause of my discovering an entirely new method of preserving specimens in natural history; and which method at once shows upon what erroneous principles the old method has been, and is still conducted. To conclude, the solution has proved my best support; without it, I could have done nothing.

"Hoc solamen erat, sylvis hoc victor abibam."

MUSEUMS.

THESE are the times for scientific discoveries. Till lately, we went fastest on a race-horse; but now we go faster still upon a rail. In our days an Italian has put many thousand pounds of English money into his pocket, for imparting to Mr Bull the important secret that we can have as good music with one fiddle-string as we formerly had with four. Witches can now go through the air without the aid of a broom-staff, by applying to Mrs Graham, the aeronautess. A piece of stamped paper from Threadneedle Street is as eagerly sought after as the purest gold of Peru. Vessels are now made to go both against wind and tide; a thing deemed utterly impossible in brave Commodore Trunnion's day. It was once indispensably necessary for Englishmen to wear tails (either club or pig) on the nape of the neck; Billy Pitt's discovery of the powder-tax has proved that we can do without them.

Amidst all these extraordinary movements and inventions, our museums alone seem to have stood stock-still, with the most invincible pertinacity. I allude not to the mere buildings themselves; they, indeed, are ever on the change. Scarcely a year passes over our heads but some new structure is raised by the votaries of natural history, with an outside of beautiful architecture, but with inner apartments destined to receive articles of old and execrable workmanship.

When I visit these magnificent buildings, in the different countries through which I pass, I can scarcely refrain from quoting the old verses :—

"The walls are thick, the servants thin,
The gods without, the devils within."

In every department dedicated to the arts and sciences, saving that of natural history, we find the materials in the inner places quite upon a par with, and often vastly superior to, the outer workmanship of the building itself. Thus, he who dedicates a gallery to painting, always takes care to have a show of pictures which will adorn the walls; and he who builds an ornamental library, seldom fails to fill it with books far more costly and important than anything in the composition of the structure which he has raised for their reception. But when a committee of gentlemen is chosen to form a museum, their attention to the outer parts of the building seems to know no bounds; whilst the ornamenting of the interior (which, by the way, ought to be considered as the very marrow and essence of the establishment) is left to pure chance. Thus the members tell the public that they will be thankful for private donations. They often deposit specimens of their own in the museum, and authorise their curator to pick up what he can at different public sales. The lavish expenditure on the outside of the temple, and parsimony with regard to the internal decorations, is giving, as it were, too much to the body, and too little to the soul.

Still, the directors do not see the thing in this light. They go jogging on in the old beaten path; and I don't know whether it be very prudent in me to hint that it is high time for them both to digress and to mend their pace. I am much more cautious now, than I used formerly to be, in giving my opinion when I enter a museum. The burnt child generally dreads the fire.

Some years ago, curiosity led me to stray into a very spacious museum. As I passed through a kind of antechamber, I observed a huge mass of outstretched skin, which once had evidently been an elephant. I turned round to gaze at the "monstrum horrendum informe," when a person came up, and asked me what I thought of their elephant. "If," said I, "you will give me two cow-skins, with that of a calf in addition to them, I will engage to make you a better elephant." This unlucky and off-hand proposal was within an ace of getting me into trouble. The sages of the establishment took cognisance of it at one of their meetings; and somebody proposed that a written reprimand should be sent to me. However, a prudent voice in the assembly caused their wrath to subside; and smiles played once more over their hitherto benign countenances.

I have occasionally noticed the defective manner in which birds are stuffed for museums. At present I will confine myself solely to quadrupeds; and, in my remarks on the very inferior way in which they are preserved, I beg to declare that I make no allusions whatever to any one museum in particular.

It may be said, with great truth, that, from Rome to Russia, and from Orkney to Africa, there is not to be found in any cabinet of natural history one single quadruped which has been stuffed, or prepared, or mounted (as the French term it), upon scientific principles. Hence, every specimen throughout the whole of them must be wrong at every point.

Horace, in giving instructions to poets, tells them how he would have different personages represented. Let Medea, says he, be savage and unconquerable; let Ino be in tears; let Ixion be perfidious; let Io be vagrant; and let Orestes be in sorrow:—

> "Sit Medea ferox invictaque, flebilis Ino,
> Perfidus Ixion, Io vaga, tristis Orestes."

Now, should I call upon any one of those who have given to the public a mode of preserving specimens for museums, to step forward and show me how to restore majesty to the face of a lion's skin, ferocity to the tiger's countenance, innocence to that of the lamb, or sulkiness to that of the bull, he would not know which way to set to work: he would have no resources at hand to help him in the operation; he could not call to mind one idea which would enable him to restore the protuberance which is seen over the eye, or to give boldness to the front, or expression to the lips, or beauty to the cheeks, or, in fine, symmetry to the whole. He could produce nothing beyond a mere dried specimen, shrunk too much in this part, or too bloated in that—a mummy, a distortion, a hideous spectacle, a failure in every sense of the word.

But how comes it, that such clever and enterprising men, as those generally are who have the appointment of working-curators to museums, should never yet have discovered the true cause which has occasioned all their errors and mistakes? The answer is brief and easy. They have not gone the right way to work in their attempts to overcome the difficulties which stared them in the face. They seem not to have reflected sufficiently that the quadruped, before they skinned it, was of beautiful form, and of just proportions, and had that in its outward appearance which pleased the eye of every beholder; but that no sooner had they taken the skin off, than it lost its beauty, and these fine proportions; and that the parts, which still in some measure retained the appearance they had in life, would, in the course of a short time, contract and dry in, and put on a very shrivelled and mummy-like appearance. Add to this, that, in stuffing their animals, they have tried to effect by despatch what could only be done by a very slow process.

Thus, in order to prevent the skins from becoming putrid, especially in hot climates, it has always been a main object with these operators to get the skins dried as soon as possible. Again, finding that the skins wanted support, they have placed inside of them a hard body of straw, or of tow, or sometimes of wood, by way of a solid foundation, into which they might fix their wires. Such a process must effectually destroy every chance of success. The nose, and lips, and ears, &c., of the specimen may look well for a few days after the operation; but, in the course of time, they will become so hideous, that every connoisseur will turn from them in disgust.

These remarks are just. Let us go and examine a stuffed monkey, for example, in any museum we choose. See, its once pouting lips are shrunk to parchment; its artificial eyes are starting from the sockets; its ears seem like the withered leaf of autumn; and its paws are quite gone to skin and bone. It is what it ought not to be; it is the product of a bad system, which ought to be exploded in these days of research and improvement. But how is this defective system to be improved, so that a specimen may be produced which shall be right in all its parts, durable as the table on which it is placed, safe from the depredations of the moth, and not liable to injury when exposed to damp? To effect this, two things are indispensably necessary. The first is, to put the skin of the quadruped, upon which you are going to operate, in a state to resist putrefaction, and the attacks of the moth, without the use of that dangerous, and at the same time inefficient composition, known by the name of arsenetical soap. The second is, to keep the skin moist during the time in which you are imparting to it the form and features which it is ultimately to retain.

These most necessary points are gained by immersing the skin in a solution of corrosive sublimate in alcohol; and afterwards, when you are in the act of restoring it to the proper form, by touching certain parts of it, such as the nose, lips, and orbits, with a mixture, one portion of which is salad oil, and the other three are spirit of turpentine.

Those who preserve quadrupeds for cabinets of natural history, seem not to be aware that, after the skin of the animal has been taken off, there is a necessity for some parts of it to be pared down from within. These parts are chiefly the nose, the lips, and the soles of the feet. Unless they be rendered thin by the operation of the knife, there will be no possibility of restoring to them that natural appearance which they were seen to possess in life. The inner skin of the ears, too, must be separated from the outer one, until you come close to the extreme edges. Nothing short of this operation can save the ear from becoming a deformity.

Every bone in the skin, to the last joint of the toe, next the claw, must be taken out, in order to allow the operator an opportunity of restoring the skin to its former just proportions.

The mouth must be sewed up from the inside (the skin being inside out when you sew it), beginning exactly in the front, and continuing the operation each way to the end of the gape. When the skin is taken out of the solution, it must be filled quite full of chaff or sawdust (but I prefer chaff), not minding whether the fur be wet or dry. When this has been done, the skin has almost the appearance of an inflated bag, quite deficient in feature and in mascular appearance. "Rudis, indigestaque moles." It now depends upon the skill and anatomical knowledge of the operator (perhaps I ought to call him artist in this stage of the business), to do such complete justice to the skin before him, that, when a visitor shall gaze upon it afterwards, he will exclaim, "That animal is alive!" "Stare loco nescit, micat auribus, et tremit artus!"

There are now no obstacles either from without or from within, to impede the artist's progress. The skin is perfectly free from all chance of putrefaction, is quite supple, and will remain so as long as required. There is no hard body inside to obstruct the transit of a working-iron; there is not anything in the shape of wires to prevent him from lengthening or shortening the neck, body, thighs, and legs, according to his own judgment.

Now we proceed to support the skin in any attitude the artist may wish to place it in.

Join two pieces of wood in the shape of a carpenter's gimlet, and of size corresponding to the size of the animal. When you have nearly filled the abdomen with chaff, introduce this machine, and let the shank hang down outside of the skin, just as though it were a fifth leg in the centre of the body, equidistant from the fore and hind legs. This fifth leg, or what may be called the shank of the gimlet, is of any sufficient length, and is passed through a hole in the table before you, and then fastened with a couple of wedges. By this contrivance you can raise the animal as high as you wish, or you can lower it at your pleasure; and the feet will just touch the table, without requiring any wire inside to support them. I used formerly to put a stick into the skin by way of back-bone, with pieces of string tied to it at short intervals. These pieces of string were passed through the skin, just where the back-bone had been; and then they were attached to a gallows above, which gave an excellent support to the skin. But I now prefer the other process, as I find it more convenient.

Everything is now ready for the artist to exercise his abilities.

With a piece of iron, from the size of a large darning-needle to that of a ramrod (or larger and thicker still, if the bulk of the animal require it), and shaped at one end like a carpenter's pricker, he will push out every part of the skin which ought to be pushed out, and then reduce with the end of his finger any part that may be too prominent; having already made divers small holes in the skin with his penknife, in order to afford entrance to the working-iron. Thus, a small hole on the top of the head will enable him to reach the nose, upper lip, and cheeks; another behind the root of each ear; another under the jaws; others, again, on the back, that he may reach the legs and remaining parts of the body. Under each foot there will also be a hole, to give him the opportunity of getting at the toes. The lips are by far the most difficult part to manage. The operator must have a working-iron in both hands. One of these will do the work within the head, and the other that without: for the lips require to be re-formed with a beautiful rotundity; and this can only be effected by means of the inner and the outer irons working in opposite directions. During the actual operation, the animal need not be kept in its original position. A smaller animal may be placed on the operator's lap: the larger may be thrown on the ground, or on the table. Every day the nose, and lips, and orbits ought to be touched with the oil and turpentine, in order to keep them moist. At first, after you have used the working-iron in every quarter where it is required, there will be no appearance of a re-formation of the features. Nevertheless, in the due course of time, as the skin stiffens, the artist will see the features gradually appear; and every day he will be more and more content with his work. At last, the skin will retain the slightest impression communicated to it by the touch of the working-iron. Thus the artist will have it fully in his power to reproduce wrinkles, or warts, or hollows, or a smooth surface, just as occasion may require.

The fur will be equally under his command. He will raise it, or depress it, according to circumstances, and it will retain the position ever after. Thus a stuffed cat in anger will exhibit a tail of the same extraordinary bulk which it does when a dog threatens its existence.

All animals ought to be well washed in soap and water with a hard brush, *before* they are skinned. This will have a surprising effect in beautifying the fur.

As there are parts of a quadruped's skin which are bound down, as it were, to the bone (at the eyes, for example), it will be necessary to pass a thread, with a sufficient knot at one end, through these parts, and to let the end without a knot hang loose after it has been drawn out at the opposite quarter. Thus, there must be a thread in the extremities at the gape of the mouth, and one at the corners of the eyes; and others in different parts of the body, according to the operator's judgment. By pulling these at the end which hangs out, he will be enabled to depress the parts into their natural shape.

The artificial eyes must be put in on the first day of the operation, and taken out and put back again every time the head of the specimen is modelled.

When all is completed, and the skin has become perfectly dry, the artist takes out the chaff or sawdust; and he finds that the specimen is quite firm enough to stand without any support from wires. He cuts three sides of a square hole under the feet, to let out the chaff; and when this is done, he returns the skin to its place.

A slit must be made in the crown of the head, or under the jaws, to allow him to fix the artificial eyes with a little putty or wax. The slit, if properly done, will leave no mark on the fur.

If the quadruped be stuffed in distant countries, with an intention to be sent home, it may be cut up, when finished, into three or four separate pieces, and this will facilitate the carriage. When dividing it, the operator must take care to hold his knife so as to humour the the angle which the fur forms with the skin. Thus, were I to cut a preserved skin in two parts, the blade of my knife would point to the head, and the haft to the tail of the animal. By attention to this, not a hair of the fur will be cut during the operation.

I will just add here (although it be a digression), that there is no difficulty in making the legs and feet of eagles, turkeys, and other large birds, retain their natural size. You may go through every known museum, and you will find that the legs of these, and of all large birds, are dried and shrivelled, as though they belonged to the mummies of ancient days. In order to give the legs of birds a natural appearance, and a natural size, the skin from the very claws to the top of the leg, must be separated from the bone by running a working-iron betwixt it and the bone, and then modelling the skin with the working-iron.

The wattles of fowls, the caruncles of turkeys, and the combs of cocks, by the simple process of internal modelling, may be made to retain their natural size.

I have now given an outline of the mode of preserving quadrupeds upon scientific principles. Here, then, I stop; for I can go on no further. I can no more explain, by the agency of my pen, how to make the thousand and one little touches which are necessary to ensure success, than a fiddler can convey instructions by letter to one who has never used the bow. He may tell him, forsooth, to draw the horse-hair at right angles over the catgut; and he may add directions how the learner is to stop and shift, and stop and shift again, until he shall produce delightful music. But this will avail him nothing. The lad will scrape and scrape again, for want of personal instructions, till at last the man who is doomed to be punished by his grating will cry out—

> "Old Orpheus play'd so well, he moved Old Nick;
> But thou movest nothing but thy fiddle-stick."

I have turned this new discovery ten thousand times over in my mind, and I invariably come to the same conclusion: viz., that I cannot give sufficient instruction by means of the pen alone. I am placed in a situation somewhat like that of the French cook, who was ordered by his king to make a dish out of that which put his culinary powers utterly at defiance. "I have turned it every way, an't please your Majesty," said he; "and I have tried it with every kind of sauce; but, positively, I cannot make a dish of it." Neither can I effect, through the medium of the pen, that which I could wish to do in this case. Wherefore, I beg to inform the reader that it requires the dissecting hand of the instructor, and from two to three weeks of actual work upon a specimen, to render the novice an adept in this new mode of preserving quadrupeds for cabinets of natural history. But, as I have neither leisure nor inclination to assemble pupils around me, I must request him who approves of the plan to be satisfied with the outline which I have just given him. I have no doubt but that his own abilities and industry will eventually crown his efforts with success.

Upon this new principle I have prepared the large ant-bear, a land-tortoise, an armadillo, a dog's head (now in the possession of the Duke of Northumberland), a hedgehog, a polecat, and the nondescript.

These specimens will be amply sufficient to prove that animals with a rough coat of hair, others with a smooth one, others with a shell, others with a scaly armour, others with a soft fur, and others, in fine, with a skin studded over with spikes, can have their form and features restored; and that the skin, prepared after the manner which I have described, will always retain its shape and brilliancy, and be quite free from the ravages of the moth, or from any detriment by being exposed to damp.

Museums ought to be encouraged by every means possible. The buildings themselves are, in general, an ornament to the towns in which they have been built; whilst the zoological specimens which they contain, although prepared upon wrong principles, are, nevertheless, of great interest; since they afford to thousands, who have not the means of leaving their own country, a frequent opportunity of seeing the rare and valuable productions which are found in far distant parts of the globe.

When I visit Leeds, I generally spend an hour in Calvert's museum, where I never fail to be highly gratified. Mr Calvert is a gun-maker of the first order. I am always lost in admiration when I cast my eyes on the vast collection of treasure which this lover of the arts has brought into the spacious and well-proportioned apartment, built at his own expense, and arranged after his own plan. In conversing with him on the habits of those animals which have come under his own immediate notice, I perceive something so true, so pertinent, and so straightforward in his observations, that I always feel regret when I see by my watch it is time for me to depart.

It has been remarked by some, who have conversed with me on this new process of preparing specimens for museums, that it would take up too much time. I am not aware that this would be the case; for he who is solely occupied in preparing specimens would always contrive to have several on hand at one and the same time. But, even granting that a great portion of his time were spent upon a single animal, is not one good specimen worth twenty bad ones? Who would fill his gallery full of Holland toys, when he has it in his power to place there statues of the first workmanship?

Indifferent specimens are admitted into museums only because better cannot be procured; and better will never be procured, until a radical change be made in that mode of preparation which is now in universal use.

I often think that the directors of public museums commit an error in not giving more encouragement, in a pecuniary point of view, to those whom they engage to prepare the specimens. The very moderate salary which these meritorious men receive is not a sufficient requital for their services. Moreover, the quantity of work which is required at their hands too often prevents them from trying experiments, which might probably prove of vast utility to the establishments under their inspection. Should this paper find its way across the water, and attract the notice of our Gallic neighbours, who are full of genius, and are remarkable for their perseverance, I do not despair to see a great alteration for the better at their magnificent establishment for natural history in the *Jardin des Plantes* on my next visit to the French capital.

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APPENDIX.

THE following Letters form an Appendix to the Memoir of Waterton, and to his Natural History Essays. The Letters have been selected from an extensive series. That to Professor Jameson was originally published as a pamphlet; a few of the others were written to various periodicals; the remainder were not written with a view to publication.—[ED.]

To the Misses Edmonstone.

My dear Eliza and Helen,—As your stay will now be short, perhaps you will not care much about seeing me. My presence here is much required; for the wall is a most tough job, and requires a good deal of planning. We have had to pile a part of the foundation. We began laying it on Monday last. Our potatoes are the best this year I ever tasted. I know nothing about Eliza's poultry, saving that "t' oud sew" has worried some hens.

The teal, wigeons, pochards, and mallards have made their appearance. All is going on here very gingerly. Tommy Pussy has evidently shied me at meal times. I account for it in this way. Cats like meat,—not meal. Now I prefer meal to meat; and when you take into consideration that the potatoes are very mealy, one ought not to be surprised that Tommy gets his dinner elsewhere. He came in here last night after tea. He said things were not now as they used to be. He missed the urn; he could smell no game; there was no tray in at night; and he thought there was no need of having the window so wide open. He complained, moreover, that nobody came to visit us—not even Fathers Bird and Speakman. I told him that things were always on the change here below; and that if *I* had philosophy to jog on, and submit to common occurrences, I did not see why *he* should take the change so much to heart. As I said this, he started up and bolted out of the window. As he was leaving me, I think I heard him say, "My duty to them:" but I am not quite certain of this; for the wind was roaring from the north at the time, and my ear next to him was somewhat deaf.—Believe me, my dear sisters, your ever affectionate brother,

CHARLES WATERTON.

To Miss Helen Edmonstone.

WALTON HALL, *March* 27, 1846.

My dear Helen,—Edmund is quite well, and Tommy Pussy the same. A night or two ago, Tommy was lying at my feet and suddenly got up and stretched himself. "What now, Tommy?" said I. He said there was no standing the want of a bit of meat; he didn't like this bread and tea work; and off he started. In half an hour, he came in at the window with a fine, half-grown rabbit, and laid it at my feet. There seems to be a great misunderstanding between Mary Day and the carrion crows. She gets no duck eggs, and she accuses them of thieving; and the crows say they must live. I think they say right. I have allowed the rooks to build here this year, and there are plenty of nests. The garden is beautifully finished. We have made three new asparagus beds.

To the Same.

My dear Helen,—As Edmund has told you all the news, I have nothing to add on that score, except that Mrs Bennet, the rumpless fowl, has begun to crow; and old Ogden begs to have her throat cut, as he is sure she will bring bad luck. Our Helen has received Eliza's letter, and we are glad to find that you are coming home. Indeed it is very prudent in you to come southward, and thus escape being frost-bitten in the icy regions. Some people can afford to lose a bit of nose; others again cannot. However, it will be the safest plan to get away as quick as you can from those dreary regions; those *sine sole domos loca turbida.* As ladies now-a-days don't know Latin, you can ask one of the good priests to construe this for you. George Denton says he would like to have a graft from the famous plum-tree, should you pass by the place where it grows. As it requires a soil well manured, he says ours will just suit it to a T.—Kind love to Eliza, and believe me, my dear Helen, your ever affectionate brother, CHARLES WATERTON.

WALTON HALL, *Saturday night.*

To the Misses Edmonstone.

LINTON SPRINGS, WETHERBY,
Tuesday morning, July 1856.

My dear Eliza and Helen,—Benumbed with cold, I got safely to Wetherby, and drove down in an omnibus (which would have just suited Caffreland) to the once universally frequented Angel Inn. Alas, how changed from the days when two men-servants attended to receive you! It has now dwindled down to a pitiful little inn in a little country town. I asked the waiting-girl, who was standing at the door in a gown of last autumn, to show me into a room with a fire. "We have not one in the house, sir," said she. "Then, miss," said I, "I'll go to the kitchen, for I am frozen alive; and you must get me a dish of tea, with a toasted muffin to it." A rustic, with a young greyhound by his side, was just finishing his own breakfast. So I pulled a wooden-bottomed chair close to the fireside, where the girl was beginning to toast the muffin I had ordered. The landlady then came in. She seemed to be somewhere about fifty, and might have been comely when in her teens. But as she stood beside me, her rough hands and black stockings told her story without her opening her mouth. I said I had frequented the Angel Inn some forty years ago; and I asked after George Harrison the waiter. She said she had never heard of him. "Then possibly, madam," said I, "you know nothing of old Billy Tether, who used to carry my little portmanteau to Stockeld Park." "No, sir," said she; "nobody knows anything of them here." "Then," said I, "they must be dead and buried long ago." When the girl had filled the teapot and put the muffin on the table, I drew the chair nearer the fire—for I thought I should never get warm again—and began my breakfast. I had scarcely eaten half the muffin, when a cabman came into the kitchen, and said that he had been looking for a gentleman who was to have come by the train, and that Squire Middelton was expecting him, but he could not find him; so he supposed that he had not come. But he had another gentleman in the cab at the door, and he was going to drive him to Linton Springs. So I left my breakfast for a moment, and went to the cab. There was a huge, unwieldy popish priest in it. I gave him my name; and I said if he would allow the driver to take my portmanteau, I would feel much obliged to him; and I added, that when I had got sufficiently thawed at the kitchen fire, I would pay the landlady for my breakfast, and then I would proceed on foot to Squire Middelton's; that he must be kind enough to make my duty to the Squire, and request him, on my part, to have a good fire ready, for that the wintry blast was more than I could bear. I think for some years I have never seen the lord and lady of Linton Springs looking better than they do at present. They made many kind inquiries after both of you. To-day we are to go to Lord Stourton's, and in about five minutes to Mass.—So farewell, my dearest sisters, and believe me, your affectionate brother, CHARLES WATERTON.

To the Same.

ALMA MATER, *Wednesday morning.*

My dear Eliza and Helen,—We arrived here in fair weather, and without any bother whatever on the road. A gentleman from our neighbourhood got into the train at Wakefield. He knew me, but I did not know him. On my mentioning how much I approved of Mr Bright's letter, he remarked that he himself was acquainted with Friend Bright, and the odds were that Friend Bright would be sauntering on the Bolton station. He got out at Bolton, and no doubt he must have ferreted out Friend Bright, and told him that I was waiting at the station—for up came the member to our carriage, with a smiling, smirking face, and we had a short but most pleasant interview.

Nothing can possibly exceed the kindness and attention of Father Clough, and his many inquiries after you both. This morning we are three inches in snow. Last night we had a capital play, beautifully performed, and to-night we shall have a repetition of it. I am wallowing in every delight, spiritual and temporal.

To the Same.

MYDDELTON LODGE,
Thursday, July 1863.

My dear Eliza and Helen,—I found Webster's omnibus an excellent conveyance from Leeds at half-past ten. Saw not an acquaintance in Leeds. The Lord of the Wharfdale Alps is all kindness and attention. I myself have had no return of ague, nor any hiccups. Moses carried my *portmantle*, whilst I walked alongside of him up the mountain. The walk did me a power of good. It began to rain gently on my arrival hither; and dark and misty was the weather until bed-time. The sun rose this morning in lovely splendour, giving this valley of inexpressible beauty an appearance of what paradise once was. Not a bird did I see from Leeds to Ilkley; and had not cock-robin piped his solitary song as we entered the village of Burley, I should have supposed that the entire feathered race had been exterminated in these parts. I shall be with you on Friday next.—Kindest love to Lydy, and believe me, your ever affectionate brother, CHARLES WATERTON.

To George Ord, Esq.

WALTON HALL, *July* 4, 1833.

My dear Friend,—This is your great festival. Many, many happy returns of it to you. I shall drink to-day, in a bumper of pure spring-water, the memory of the greatest patriot that the world has ever produced. Oh keep out factories, and paper-money, and loans, and hereditary legislators, from that fine country, which he delivered from tyranny, and to which he gave the means of becoming an earthly paradise.

You would have been charmed with the natural history my park has afforded this year. The herons have bred here for the first time, and I may now calculate on an increasing heronry every year. This season, I have made jackdaws hatch magpies, and magpies jackdaws; carrion crows have brought up rooks, and rooks carrion crows. It is quite laughable to see a brood of young jackdaws following an old magpie, and *vice versâ.* Do tell me in your next if we may expect you here next spring. Why can't you come and see us? We leave this for London on the ninth of this month, and will be in Bruges a week after.

To the Same.

WALTON HALL, *January* 30, 1835.

My dear Friend,—I have received your letter of December 17, 1834. Our crow is just as wary and shy as yours, on account of the everlasting persecutions against it. But in my park, where all are free, you may approach him quite close any day in the year. I know he loves young ducks in his heart; however, as I have always a superabundance, I never quarrel with him for imitating our own government in the taxing line. Judge Hall's *Western Magazine* arrived most opportunely, and you will see that I have made pretty good use of it. Professor Jameson, relying apparently more upon his forty-three honorary titles, than upon his knowledge of ornithology—very fortunately for me, but very unfortunately for himself—has stood forward the avowed champion of Audubon, and commenced an attack upon me. This is just what I wanted. I shall now have an opportunity of exposing his lamentable ignorance, and of defending myself. As for Audubon, of course, he will catch it to his heart's content; neither shall I let Sawney, with his forty-three titles, escape till I have flayed him alive. This affair will cause a great stir amongst us. The Professor's knowledge has hitherto never been questioned, so that he has risen up to an intolerable degree of consequence amongst the great ones of Europe. I send you my first letter to him. I think I shall write him a second without waiting for a reply. In order that I may be perfectly independent of the press, or any proprietors of magazines, I publish at my own expense, and distribute the letters gratis. Fifty went to London and twenty-five to Edinburgh yesterday.

Now, my dear friend, if you can procure authentic information relative to Audubon *before* he first came to England, in addition to what you have already sent me in your most VALUABLE letters, pray lose no time in doing so. I care nothing about his ornithology; your most masterly critique on his pretended Bird of Washington, together with my own knowledge of ornithology, will enable me to castigate him in proper style. But what I want particularly to know, and to be quite certain of, is this. In what towns did he keep shop after his marriage, and how many years did he remain in those towns? You see my drift. Jameson informs us that he spent (I think) twenty-two years in the forests to study the habits of birds. Now I find by Audubon's own account, that he was at Henderson for several years, and at Louisville, where he talks of his counting-house.

I shall send you from time to time due information of my proceedings. Master Jameson little knows with whom he has to deal; still, had he read *Loudon*, one would think he ought, in common prudence, to have hesitated before he threw the first stone. Pray write as often as you can. Your letters are invaluable. Eliza, and Helen, and Father Morris, who was here yesterday, send their kindest regards.—Believe me, my dear friend, ever sincerely yours,

CHARLES WATERTON.

To the Same.

WALTON HALL, *July* 3, 1835.

My dear Friend,—I have now before me your two most welcome letters of April 15 and May 15. I am much obliged to you for your information concerning Peale's opinion of the Bird of Washington. I am reading your letter now, and will comment upon it as I go on. You have made a little mistake about Rembrandt Peale's picture of Washington. The picture which I inquired about was not his *original*, but his copy, which he had with him in this country; and I was anxious to know if he had sold it in England. I believe

Master Jameson sees his folly in attacking me. My two letters to him have given universal satisfaction in this country, and nobody pities him. He has not answered them, and, as far as I can learn, he does not intend to answer them. Indeed, what can he say? The public must now clearly see that the Scotch philosophers have supported Audubon at the expense of truth; and I have run them so hard, that they can no longer defend him. Should they begin again, I will write and print a third letter to Jameson, which I promise you shall be a flogger; and I will take care to give that conceited closet naturalist, Master Swainson, his deserts. I shall whip him severely for his ignorance and puff of Audubon's plate of the rattlesnake and mocking-birds. As I keep no copies of what I write to you, I do not recollect at this moment whether or not I ever pointed out to you the humbug of that drawing and Swainson's ignorance. Audubon drew it, as an illustration of ornithology, and he makes the mocking-birds not only defend their eggs, but absolutely attack the snake. Swainson says, the snake is going to *suck* the eggs. Now, who ever heard of a snake *sucking* eggs? A snake can only snatch and swallow. And what a fool this snake must have been to have taken the eggs, when he could have taken the old bird itself, which was within a foot of him. But this is not all. Audubon, who tells us that he has been all his life amongst rattlesnakes, has positively drawn the fangs in the shape of the letter S, with their points turning *up*, instead of *down;* and he has made the eye of the snake starting out of the socket, from which it could not possibly move. The whole head of the snake is caricature, and puts you in mind of St George and the Dragon. So much for Audubon's drawing, and Swainson's critique. These two men ought to be whipped! Your comments on Audubon's raven are admirable. He is, indeed, an arrogant fool! Only think of heaven imposing upon such a fellow the task of writing the history of your birds! Father Morris sends you his blessing. He is here to-day, and says he prays for you continually. He is delighted beyond measure with your lamentation for the death of your ducks by the carrion crow. Your heart is softer than mine. This spring, while I was sitting in my room up-stairs, before anybody was up, I saw a carrion crow carry away four ducklings, one after the other, to its nest in a tree on the top of the hill, where you and I used to shoot hares. I did not blame the crow, but I abused the old duck for allowing the thief to plunder her with impunity. You know crows must live as well as anybody else.

Our English naturalists will swallow anything if they can believe Audubon when he tells them that the raven is fond of foxes, skunks, and weasels. I defy any man living to prove that the raven feeds on such quarry. Your being wounded by the fang of a rattlesnake is most fortunate for natural history, and I show your account of it to everybody. Though it is evident that the fang of a poisonous snake is innocuous after death, still prudence would forbid one to make the experiment, which chance caused you to make. Though you tell me you can give me no further information concerning Audubon's residence in the United States, still I hope that, from time to time, you will be able to collect a little. Depend upon it, that quack never pretended to be a naturalist, till he came over to this country, and found how easy it was to gull John Bull. He would also see that our Scotch philosophers, and English, too, are all for making money; and that they measure what is sent to them on science by the rule of profit and loss. If they fancy that a paper which is sent to them will, what they call, *take,*—they insert it immediately, be it ever so extravagant. Loudon, however, is an exception. He has the advancement of science really at heart. In your letter of April 17, I think I see symptoms of your giving up your farm. If so, all the better, you will then catch fish again at Walton Hall.

I now proceed to comment on your most interesting letter of May 15, 1835. When I read *Fraser's Magazine,* which contained his critique on my first letter to Jameson, I wondered much that he should have invented such a silly tale as that of my riding on a cayman across the Orinoquo. I thought it too absurd to require any notice from me. I am of your opinion that the Charleston philosophers begin to find out that Audubon has been duping them. I knew that snakes swallow frogs hind parts foremost. The hindquarters of a frog will go down your throat just as glibly as the head; but not so with the hairy tail of a quadruped.

My kindest remembrance to Titian Peale. Tell him that I am only waiting the return of Mr Parrish to my house; and that when he comes here, I shall give him a letter for Titian, and shall request him to take charge of a few of our British eggs, which I think will be an acquisition to Titian's museum.

And now let me request you most earnestly to write a critique on Audubon's work. That ornithological impostor ought to be exposed. Nobody in the world can handle the subject better than you can. Moreover, you are in the identical country where all his wondrous achievements are supposed to have been performed. Eliza and Helen send their kindest remembrance, and long to see you again. Come and spend the winter with us, and we will make you merry.—Believe me, my dear friend, ever truly yours,

CHARLES WATERTON.

To the Same.

WALTON HALL, *March* 4, 1836.

My dear Friend,—I sit down to answer your kind letter of November 8, and the five in one of January 9, and to thank you for the most excellent treat which they have afforded me. In my last letter to *Loudon*, I copied your capital remarks on the dipper. You will see, in one of the magazines which I send you by this opportunity, that I have given it pretty stiffly to Parson Orpen Morris, who is nothing but a pert jackanapes: one of those insufferable coxcombs who calls us Catholics idolaters and heretics, &c., from his pulpit.

As to the oil-gland being used for lubricating the plumage, you can only satisfy yourself that it is used for that purpose by means of your sight. Now I have a rumpless hen here—of course she has *no* oil-gland—I have another hen, which keeps her company, *with* an oil-gland. You shall take a magnifying glass, and you shall examine the feathers of these fowls as often as ever you choose; nay, you shall throw them both into the water, and if you find the least difference in their feathers, either wet or dry, I will give you leave to whip me once a week for a whole year. Add to this, that many of those birds which are furnished with an oil-gland, cannot make use of its contents on account of the dense tuft of feathers in which it is enveloped. The duck, for example. I wish you would read attentively what I have already written on this subject in *Loudon*, not forgetting the article where I cut up Audubon about his swimming partridge. In that article you will see why the feathers of a land bird become soaked in the water.

On reading your article—your most satisfactory article—on the cow-bunting, since it has appeared in print, I fancy that they have altered it in some places. I don't see that part which I underlined concerning Audubon.

You are quite right with regard to Jenner's preposterous account of the young cuckoo. He never saw what he relates. Fearing that you might have a dozen of our naturalists on your back for daring to call in question the authority of Jenner, I have already taken up the club on your side. In my article on the jay, which I sent to *Loudon* last week, I have introduced the subject, and I trust I have proved to every rational reader that Jenner's account ought not to be relied upon. The whipping which I have given Parson Morris in the magazine of this month ought to have appeared in the one of last month, but Loudon begged I would let him defer it till the March number, on account of want of room, as he had several articles from correspondents which had laid too long by him.

Now that you are free from farming, pray turn all your thoughts to ornithology. You and I have it fully in our power to dress over those who defile the science by their pedantry, ignorance, and lies. Jesse's "Gleanings in Natural History" are faulty in the extreme. I told Loudon some time ago that he ought to be whipped. Nothing can be more false or absurd than his statement that horses in hot countries bleed each other. I should say that Brother Jonathan, with very great justice, might cut our scientific jackasses to pieces, were it not that he might fear retaliation on account of Audubon, whose reputation seems to be sinking very fast. I often wonder, for the credit of your country, that some of your scientific people do not lay their heads together and expose the cheateries of that man. The affair of the rat leading the blind rat, is a real lie. You will have seen in the last numbers of *Loudon* how exactly I agree with you concerning the black snake. I think Master Taylor had better drop zoology as a science above his reach. I am glad you look upon

Audubon's account of Boone barking a squirrel, as a lie. When I read it, I laid it down as a most barefaced lie; but I dared not comment upon it, as I had never seen your sharp-shooters in the field. I had never seen the verses in Audubon's praise, which you have described. I should not have thought anybody capable of writing such absurd and, I may say, blasphemous trash. Depend upon it, there is method in all these effusions. All Audubon wants is to get an ornithological passport from this country, in order that he may gull other nations upon the strength of it. Unfortunately, we have not one real practical ornithologist who has travelled in your country, so that nobody dares to expose him, though many of them are quite satisfied that his works are replete with falsehoods. When you come over here, we must set to work in good earnest, and point out to this infatuated public how it has been imposed upon. I hope you will always send me everything that Judge Hall writes on Audubon. I consider his criticisms most invaluable, and they are of the utmost use to me, for I am the only one who opposes Audubon. You will see by the *Loudon* which I send you to-day, that there is a third volume of Audubon's "Biography" announced. I shall be anxious to know what Master Jameson will say of it. Probably, he will carefully avoid coming in contact with me a second time. However, I shall keep a good look-out, and if he only alludes to me, I shall write him a third letter, which I will take care shall be a flogger. In the meantime, I hope you will be unceasing in your efforts to expose the man who has brought such real discredit upon your country. I particularly want to know all about his keeping shop, because, since his "life" has appeared in that humbug of a book of parrots, got up purposely for sale by Sir Lauder Dick and Captain Brown, people really imagine that Audubon was quite independent, and had nothing to do for twenty years but to draw birds and to write their history.

A gentleman of fortune, from the neighbourhood of Manchester, informed me the other day that Audubon's birds are quite at a discount. I can easily believe it. You will see at the end of my paper, in the February number, that I have given the editor of your *American Quarterly* a shot. I intend to give it pretty stiffly to Parson Morris in the May number, for his impertinent remarks in

Loudon's last. Only think that the puppy has no notion of the anatomy of a cat's paw! The blockhead has never even found out that the claws being retractile, the cat can put them completely out of the way when she washes her face. Swainson has got a most tremendous castigation in the last number. I am very glad that he has caught it, for I really think, with the exception of Audubon, nobody has done such real mischief to science as Swainson. The girls and Father Morris send their kindest regards. We shall go to Aix-la-Chapelle in the summer; but I will in due time tell you everything about our intended trip. Can't you contrive to meet us there, and then return with us to Walton Hall.—Believe me, my dear friend, ever truly yours,

CHARLES WATERTON.

To the Same.

ROME, *December* 1, 1840.
NO. 106 VIA DE DUC MACELLI.

My dear Friend,—I received your most welcome and instructive letter on the 28th of November. I sit down this morning to answer it, and I shall write a little from time to time, not being able to finish it at one, nor perhaps at two, or more sittings, on account of having my hands full of natural history. I go to the bird-market at the Rotunda every day, and when I fall in with a rare bird in good order, I buy it and take it home in order to prepare it. I have now got nearly forty specimens; and were I to give a public lecture on the mode of preparing them, I should put Master Swainson's renewed Taxidermy into a fever that would carry it off the stage for ever. I cannot exactly understand how he can make me, at one and the same time, a *very observing* and an *unscientific* naturalist. Acute observation must be productive of knowledge. My former letter to him galled him tremendously, and pointed out to the public pretty clearly his lamentable ignorance of real ornithology. I was informed by our consul at Palermo, that Swainson is about to settle in Australia, having offered his museum for sale. He seems to be an utterly disappointed man. His want of knowledge of the real nature and habits of birds. totally unqualifies him from holding any public office in such a place as the British Museum. On my return to England, if I find that any of the friends of Audubon, or Audubon himself, have brought me before the public in an unbecoming manner, I shall not be long in taking up the club. I will review Audubon's biography of birds, in about a twenty or thirty pound pamphlet, in which Swainson, and Jameson, and Macgillivray, and all his other supporters shall have their ignorance brought home to them. I will prove their consummate ignorance in clear terms, by showing that they have held up, almost to public adoration, a man whose book of birds contains unpardonable errors in every page, and has more than one evident and palpable falsehood. Had his partisans been real naturalists (scientific naturalists, if you will have it so), they must have discovered many of these errors at first sight. Then, if they did discover these errors, they acted basely in joining to gull the public. If they did not discover these errors, then indeed is their ignorance established beyond all doubt. Either way, they are in for it. Charles Buonaparte (as you and I always called him) has been twice here since I came from Naples, but I have not returned his calls; and I think that I shall not return them, for I believe the farther that he and I are distant the better. An Italian marquis stuffs his birds. They are just upon a par with all those wretched specimens of death alive which you see in London and in Paris. I had quite forgot that you informed me in one of your letters that Titian Peale joined the exploring expedition. I think there would be no great loss if the whole of the birds and beasts in his museum were to go to the dogs. Charles Buonaparte, before I went to Naples, showed me a few birds which he had received from Titian. They are so ill done, and so out of shape, that I could fancy he has quite forgot the instructions which I gave him when I visited the United States. I left off writing, when I had finished the foregoing page, and I have never been able to take up the pen again till to-day, December 17. The whole of my time has been taken up, from light till dark, in preserving birds, and in modelling the head of a porcupine, previous to my preparing an entire one, in which I could not be successful without a copy to go by. I have done a duck of great beauty, never seen in England. We have lately received accounts of the failure of Wright & Co. Myself and sisters-in-law suffer to the tune of about £800.

CHARLES WATERTON.

To the Same.

WALTON HALL, *July* 5, 1842.

My dear Friend,—On the very day in which your most esteemed favour of June 13 reached me, I received from London "Part the first, volume xix., of the 'Transactions of the Linnean Society of London.'"

At page then 59 of the above-mentioned work, I have at last seen your beautiful paper on the habits of the box tortoise. This paper is surrounded by others so dry and uninteresting, that positively I can't get through them. It is a fertile patch in a sandy desert. I am extremely delighted with it. It gives me a complete idea of the habits of the animal, which I preserved when I was with you, and of which I was then enabled to obtain but a very meagre account. I have written three papers in all for Loudon's *Gardeners' Magazine.* The first is the solitary thrush; the second, the civetta or little Italian owl; the third, the powers of vegetation. I don't know if the *Gardeners' Magazine* travels as far as Philadelphia.

You surprise me with the enormous number of emigrants. Still, I ought not to be surprised when I reflect on the horrible state to which this misgoverned country is reduced. I assure you the public papers give but a faint idea of our distress. In Ireland the people are actually dying for want; and here in England we have too many instances of the same kind of death. Whichever way you go, you meet with objects of horrible distress.

How delighted I am that Titian has returned. Poor fellow, he must have suffered a martyrdom. Pray say everything that is kind from me, and tell him that I long to read his most interesting adventures in print. It is singular that both he and I, going in quest of zoological information, should have suffered shipwreck, and have just saved ourselves with the clothes on our backs. I hope Peale's health has not suffered.

I got, the other day, a milk-white hedgehog. It is a perfect albino, with pink eyes. The fishermen are here every day. One or two of them often speak of you, and ask when you are coming again. Perhaps you remember poor Sam, my servant. He died of consumption about three months ago. What is Audubon doing? He seems to be quite forgotten here. I never hear his name mentioned, or see it in print. Depend upon it, our scientific conoscenti are most heartily tired of his acquaintance, and ashamed of having been made his dupes.

To the Same.

WALTON HALL, *Dec.* 17, 1843.

My dear Friend,—I received your letter of the 13th of November on the first of this month, at the very time that I had Audubon's "Biography of Birds" actually in my hand; for I had imagined that he might possibly come to England in order to bring out his history of quadrupeds; and if so, I was determined to be ready with a few remarks on that delusive work,—foreseeing that his dupes on this side of the water might possibly be inclined to take up the club against me. On looking into his book with an ornithological eye, the first thing that strikes one is, the reasoning powers which he puts into his birds; for they are actually endowed with intelligence relative to their future movements equal to that of man; secondly, the impossibility of his approaching the birds sufficiently near to mark down their minute economy; thirdly, the improbability of his spending two days, or even one, in watching the motions of his birds, which he must have done had he seen with his own eyes that which he assures us he had seen. We need go no further than his history of the wild turkey, in order to find sufficient proof wherewith to expose his falsehoods, to condemn his ignorance, and to be astonished at the audacity with which he has gulled his learned friends. How can we sufficiently despise the ignorance which our naturalists connected with Audubon have exhibited in praising a work so full of palpable errors? Look at his great owl. There you will find that so soon as it saw your great ornithologist, up went its tufted horns

—bolt upright. Now, the plain fact is, those tufts are always erect, and they cannot be otherwise by their particular arrangement on the skin. It requires an effort in the bird to suppress them, and this he invariably does when he is surprised. Now, Audubon's great owl ought to have depressed them the moment he made his appearance. His erecting them at once proves both ignorance and falsehood on the part of Audubon in this affair. Still, the Jamiesons and Swainsons and Macgillivrays of the day swallowed this palpable fraud, and have puffed up the author of it as one eminently versed in the science of ornithology. Whilst I was in Rome, there was a fine eagle owl kept in the Colonna Gardens, and close to its cage there grew a large evergreen oak. Behind this tree I often placed my friends, in order that they might see with their own eyes how Audubon has deceived us in his description of the habits of your great owl. But enough of this. I could soon fill twenty pages with his gross ignorance of the birds which he affects to describe with fidelity. You ask me in your last how I feel with respect to your scribbles? I will tell you how in a few words; but I must lay down the pen for to-day, as I always write my letters at early morn, and we are just now (half-past seven) going to Mass.

I have just received a letter from Mrs Loudon, informing me of poor Loudon's death. He had lingered long under a pulmonary complaint. He was a most indefatigable man, and science will have a great loss in him. Let me here tell you, in answer to your query of how "I feel with respect to your scribbles," that whenever I see your well-known handwriting on the back of a letter, I feel sensations of pleasure not easily to be described. Your information, your remarks, and your sentiments are most valuable, most interesting, and most gratifying to me. Indeed, I cannot sufficiently appreciate them. Oh, that I could have the satisfaction and happiness of seeing your face again on my little island! We shall be at home all the summer. Come and make us merry again.

I think you entertain an erroneous opinion of the Irish. Do not trust to what you read concerning them in the English newspapers, which are full of deception and falsehood as far as regards Ireland. No words can express the horrible cruelties which we have exercised in our oppression of that fine people. Had it not been for the paternal admonitions of the priesthood—long, long ago, Ireland would have been in rebellion from one end to the other. Amongst the thousand grievances imposed upon her by the ferocious arm of unrelenting England, just fancy to yourself proud and domineering parsons taking their tithes at the point of the bayonet, in districts where one solitary Protestant individual cannot be found to answer Amen to the Sunday service. Fancy eleven bishops of the Church by law established, after maintaining themselves, their wives and families, literally leaving behind them, according to the Probate-duty returns, no less than the enormous sum of two millions and seventy-five thousand pounds sterling! ! ! Warburton, the son of a blind Irish piper, actually left more than £500,000. But the game of diabolical plunder and oppression is now fast drawing to a close. I beg to draw your particular attention to my opinion concerning Ireland. Trust not to one word of what you will see in our Government papers touching the final issue of the present agitation for repeal. There can be little doubt but that the Government calculated on a general massacre of the Irish at the meeting at Clontarf. The prohibition of the meeting was purposely deferred till the Saturday evening, when it would be morally impossible to prevent the people from assembling. Most providentially, O'Connell was in Dublin, and by his giant exertions, and those of the clergy, a stop was put to the meeting, just—and but barely—in time to prevent the most fatal consequences. Foiled in its abominable attempt, the Government now vainly expects to irritate the Irish past endurance by importing, wantonly importing, immense stores of arms into Ireland. Still the people remain perfectly quiet; and the determination for repeal gets stronger and stronger every day. Now, mark my words, there must either be a full repeal of the Union or a separation. How this will be effected I cannot say; but I am sure that it will be effected. The world has the novel instance of nearly a whole nation, headed by its clergy, agitating for its rights, with a firm determination not to break the peace; and incessant prayers are sent up to the Throne of Mercy for a successful issue. Those prayers will be heard, and Ireland will triumph. Our blinded Government seems to be quite at a loss as to what steps it ought to take. The prosecution of O'Connell and others is folly in the extreme. Should all the accused be condemned and sent to prison, that step will only tend to embarrass the Government still more.

To the Same.

WALTON HALL, *January* 30, 1846.

My dear Friend,—You would have learnt by my last that I was on the point of sailing for Madeira, having been ordered to do so, most unexpectedly, on account of Miss Edmonstone's indisposition. We had a charming passage of twelve days, and accommodations in the very first style. Miss Edmonstone got well before we landed. So soon as we got into warm weather, the cough gave way, and the expectoration ceased. Having located her and her sister in a beautiful country house, about a mile from Funchal, and where they will stay till the end of next May, I took my leave of a terrestrial paradise (there not being sufficient in the bird line to give me occupation for half a year), and I returned home, to witness in England scenes of vexation, speculations in railroads, and quarrels in politics, the nuisances of which far, far exceed the slender powers of my pen to describe.

I cannot divest myself of the idea that our aristocracy is about to be severely punished by the hand of Heaven. When I reflect that it was the aristocracy which destroyed the religion of our ancestors; that it was the aristocracy which seized upon, and has enjoyed up to this day the sacred property bequeathed by pious Christians for very different purposes; and that it was the aristocracy which framed the diabolical penal laws, and put them into execution with a cruelty surpassing that of a Nero, or a Dioclesian, I must say that I tremble at what I see on the political horizon before me.

But let us pass to something more congenial to our mutual feelings. I see by the last number of the *Zoologist* that our wise-noodles in ornithology, with the late Baron Cuvier at their head, have raised your real, well-known, well-proved American Canada *goose* to the dignity of a *swan!!!* Cuvier, although a great philosopher, and a most honest gentleman, knew no more about the real habits of most birds, than I did about his grandmother.

Firstly, The swan does not obtain its adult plumage till the third year; whereas the Canada goose acquires his by the end of the first, or early in the second.

Secondly, The swan invariably persecutes and even kills its own progeny of the last year, on the commencing of the next breeding time. The Canada goose does no such thing.

Thirdly, The swan will not feed on the grass of meadows and of pastures. The Canada goose lives upon this grass, except during harvest, when it goes to the corn-fields.

Fourthly, The swan conveys every mouthful of food to the water before it swallows it, and where it undergoes a kind of filtering process. The Canada goose never does this, and will enjoy its food without any water at all.

Fifthly, The swan is comparatively a mute bird; but the Canada goose is vociferous beyond all manner of belief at all seasons of the year. Just now, they are flying round my house, making a noise as though each had a trumpet in its mouth.

Sixthly, The swan elevates the covert, tertial, and secondary feathers of the wings whenever you approach it. The Canada goose never does this.

Seventhly, The swan carries its young brood frequently on its back. Not so with the Canada goose.

Eighthly, The Canada goose will pair with other geese, and even with the diminutive Barnacle goose, as is proved every year at my house. The swan enters into no such bonds of love.

Lastly, The Canada goose is remarkably swift on foot, and can be driven any distance on the high road. Now the swan is particularly slow when on the land, and cannot be forced along to any extent, on account of pedal inability.

For these reasons, then, I wish very much that the bird in question should remain a goose.

Since your great Audubon and our great Swainson have ceased to caricature ornithology in England, that delightful study has certainly become more simplified. Still there are honest writers, whom I could name, not very competent to dogmatise in our arena of ornithology. But I write no longer for the public; so the errors prevalent at present may descend to posterity as truths for aught I care to the contrary. Probably I shall return to Madeira in the spring. If so, I will give you timely notice of my movements.—Meantime, my dear, dear friend, every blessing attend you, and believe me ever truly yours, CHARLES WATERTON.

To the Same.

WALTON HALL, *June* 29, 1846.

My dear Friend,—At last we have uncommonly fine and warm weather; but we shall not forget in a hurry the chastisement which April inflicted upon our gardens and our orchards. The cherry blossom was magnificent, and promised an abundant crop; but all has ended in disappointment. It was cut off by the frosts; and I don't think that we have one quart of fruit on those magnificent trees which you must well remember. Of apples, there are none; and I may say the same of all our wall fruit; the trees of which have since so much suffered by the insect, that there will be no bearing-wood for next year. The present warm and calm weather has produced to me a new phenomenon in ornithology. The herons, which have increased, and thrown aside much of their natural shyness, are perpetually alighting on the *deep* water before the drawing-room windows. I watch them narrowly through the telescope; and it seems to me, that these waders venture beyond their depth, in the hopes of getting at the fish, which are in innumerable shoals on the surface. You can conceive nothing more awkward than the gestures of the herons. They try, and try again; and apparently they do not succeed in capturing a single fish. After many fruitless trials they rise from the water, just as the water-hen does, and they imitate that bird exactly in its progress through the fluid. This is the first time that I ever saw the heron progressing through deep water. We live to learn.

The newspapers have now brought us information of your victories in Mexico. Poor Mexico! How happy she was under the old Spanish Government; and how miserable she has been since Canning boasted that he had given birth to a thousand republics in

America. The fact is, we envied her gold and silver, and wanted a market for our manufactures. Hence, we invented ten thousand falsehoods of the cruelties and the tyranny of the old Spanish Government, and we assisted the insurgents to throw off her yoke. War and mutual plunder have been the lot of these once happy colonists ever since. I have great doubts about the propriety of your taking possession of Texas. That act has caused the present war : and who knows where it is to end. A temporary peace may be forced upon the Mexicans ; but they will always hate you for the future, and they will take the first favourable opportunity to repay you in your own coin. Better far would it have been for you to have commenced a cultivation of the interminable wilds, which really belong to the United States, than to have incorporated Texas in the community. Jonathan, like a young foxhound whelp, has now tasted blood ; and it is a question with me, whether or not he won't in future have more to do with the sword than with the plough. Look at your old covetous grandfather Bull in the east. He first contrived to get a bit of land on the sea-board, and built a factory there. By degrees, he elbowed his unsuspecting neighbour, and made him retire. He then pronounced his neighbour to be dangerous to the new establishments—to save which, he drove his neighbour farther and farther into the interior, till at last, by intrigue and gunpowder, the ambitious old thief has now possessed himself of the richest portion of Asia. More than probable, his hopeful grandson Jonathan will imitate the parent's conduct, and become a great warrior, rogue, and hypocrite on the northern continent of America.

CHARLES WATERTON.

To the Same.

WALTON HALL, *January* 11, 1847.

My dear Friend,—I received your last letter on New Year's-day. I should have answered it sooner, but this has been a very busy time with me. I am delighted to perceive, by your wonted style of writing, that your health is perfect and your nerves are braced. Your observations on Mexico are very much to the purpose. Still, I must own that I conceive your republic would be much better without an incorporation with Mexico. Conquer her if you please, and give her a sound whipping; but let that be all. Young Master Yankee has now fairly passed the western Rubicon. Let him ponder well on the heinous catalogue of political sins which his old, vicious, surly, and manufacturing grandfather John presents to his view. The old beast still sticks at nothing in order to open a market for his commerce. Steam drives him on to his utter ruin. He can now make more goods than are enough for all the world. What is he to do? Notwithstanding the enormous telescope of Lord Rosse, he cannot get any certain information that there are people in the moon in want of manufactured goods. Could he ascertain that, I am convinced he would manage to get up to the dear planet, set its rulers at variance, and then cram down the throats of the people a new constitutional charter, as he has done in Spain and Portugal. However, in the meantime, old Bull has certain indications that all his sublunary splendour is not exactly made of the right stuff; and a debt of £800,000,000 is no easy load to bear. His manufacturing districts are just now in anything but a flourishing state, and the operatives begin to grumble. Ireland is in absolute famine; and the Highlands of Scotland are calling loud for food.

Under all these revolting circumstances, I say then to grandson Yankee, keep out of war; have no national debt; discourage steam manufactories; and bring your own lands into the highest possible state of cultivation.

Our winter is, and has been, most tremendous. Winter set in about a month before Christmas, and the ice on my lake was nearly a foot thick. A cold and pinching thaw then set in, and all the snow disappeared; and when the last of the ice on the lake had broken up, a black frost succeeded without any snow, and at this moment the ground is as hard as adamant. We have had a month of fogs; and here we have not had one glimpse of the sun for eighteen days! I don't know whether you are aware that, on the 21st of December we always give corn to the poor, in honour of St Thomas the apostle. I have never failed to hear the wild and delightful song of the stormcock (Mistletoe thrush) on that day. But this year not a note was heard; and although we are now at the eleventh of January, this favourite bird of mine has not given us a single note. With the failure of the potatoes for man, there has been a total failure of seeds for birds. The hawthorn has produced no fruit this year, and the holly has not a single berry on it. Hence, the large flocks of field-fares and red-wings, which arrived here at their usual time, are much diminished; and I fancy that the missing individuals are gone far away to the south, in quest of their daily bread. Crows and magpies are so pinched for something to eat, that they come close to the windows, and I give them bread and potatoes. The owls alone seem to enjoy themselves, and keep up a charming nocturnal concert round the house. I never in my life had so many of the real hooting wood-owls; and I may say the same of the screech-owl, which inhabits the tower over the old gateway.

I hear nothing now of Master Swainson, or of your great ornithologist, Audubon. What is the latter about? Did I not tell you, in a former letter, of the disgraceful trick he played upon the British Museum in the sale of a stuffed specimen of your wild turkey? I hear very little now on the topic of natural history. I only take in the *Zoologist;* and I never think of writing papers in it to correct certain errors which appear from time to time in its pages. Should you conquer and keep Mexico, what an amazing new field you will have for zoology. Your Government ought to supply Titian Peale with every requisite, and send him for half a dozen years to the unexplored wilds of that fertile country. I am in most superb health; and the ladies are pretty well, considering the severe weather. They wish you a happy New Year, and many, many returns of it.—Believe me to remain, my dear friend, ever sincerely and affectionately yours, CHARLES WATERTON.

To the Same.

WALTON HALL, *Nov. 19th,* 1848.

My dear Friend,—When your most acceptable letter of Sept. 23d reached this place, we were all on our travels in order to get fresh air for the benefit of Miss Edmonstone's health. Her stomach had been a little out of order for some time, and the doctor advised us to go to the sea, which has put all things to rights. We only got home last night from Scarbro', and I take the earliest opportunity of writing to you. In fact, I am just now engaged in this at half-past five in the morning. As you wish to know more about our lawsuit with the vitriol vagabond, I will give you a brief account of our proceedings. In it you will see what a flogging thing it is to go to law here in England, even though you have the most evident justness on your side.

I think I told you that the fellow had purchased during my absence *three* roods of land, which formerly belonged to the family, and which I had never been able to get possession of, although I had tried for nearly twenty years to buy them. Here he built his establishment. The alkali works at last became a most intolerable nuisance. Our fine fresh-water brook, which runs down the valley, was so poisoned by filthy drainage from the works that the cattle would not drink it, whilst the timber in the vicinity was suffering dreadfully from the poisonous vapour. Our potatoes are worse than ever this year.

In this state of things, Sir William Pilkington and myself prosecuted the works at the York assizes, before a special jury. After an enormous expense, the case was referred to arbitration. The thing was so clear, and the nuisance so palpable, that you would have supposed all would have been concluded after one week of investigation. No such thing. The arbitrator, who is a Leeds lawyer, and can thrive in smoke which would kill any person not accustomed to live in such a murky town as Leeds, found means, by hook and by crook, to continue his investigations just as it suited his convenience—receiving ten guineas per day for his attendance, independently of his food. He made three visits to my park, and saw with his own eyes the magnificent timber dying around him. Still he allowed our adversaries to prolong the case by calling witnesses without end, in order to gain time (for they were clearing £9000 per annum), and he absolutely managed to have the fingering of the affair for nearly two years. At last we have succeeded in getting his award, which is to the following effect,—he receiving £528 sterling for his trouble ! !

He does not suppress the works (although he had full power to do so), but he forbids the making of *salt-cake.* Next, he dooms our adversaries to pay the *whole* of the expenses in the first suit at York before a special jury. In the arbitration he awards very moderate remuneration to Sir William Pilkington's tenants for damage done to their crops. To me he awards £1000 damage for my timber, and £100 more for smoke and nuisance to the house. But mind he neutralises all this by ordering me and Sir William to pay one-eighth of the arbitration costs. So that, if I save my expenses, it is all I shall do. Most probably every farthing of the £1100 will barely suffice to meet these expenses. What a mockery!—to award me a sum for evident damages, and then to deprive me of it by taxing me with costs incurred to gain it. A pretty victory for us, to be sure! Sir William will be a £1000 clear out of pocket, and I shall receive no remuneration for the destruction of my timber. The only positive gain we acquire is, that the law has now fully declared that the alkali works are a positive nuisance, and a damage to the neighbourhood; and this will be of vast advantage to us at the next York assizes—whither we shall go, as we are determined to have the works put down. You must know, we had two of the most respectable and scientific wood-valuers of Yorkshire to form an estimate of damage done to the timber by smoke from these works. They both swore that my estate was worth less, by £5000, if it were brought to auction; and after immense calculation and expense, they both swore that I ought to receive in good money a sum of £2200. In lieu of this, the arbitrator has coolly cut me down to £1100, and then taken precious care that I shall touch little, perhaps none of it, by saddling me with a certain portion of the expenses. Our adversary will have to pay above £6000; and if he chooses to fail before all is wound up, then Sir William and myself must prepare to fork out more tin. Surely grandson Jonathan can manage his lawyers better than his old, stupid, perverse, and profligate grandfather Bull does.

I was never in law before. Now don't you think that I have had my belly full enough? Jury law is always dangerous. But arbitration law, nine times out of ten, is certain death to the breeches pocket. Never more will I have doings with an arbitrator. Should our Leeds' arbitrator meet me in the street, am I not entitled to exclaim with old Cromwell—"Sir Harry Vane! The Lord deliver me from Sir Harry Vane"?

I cannot describe the heartfelt satisfaction I feel in learning, from your last most valued favour, that your Government has at last done something for poor Titian Peale; as real and worthy a naturalist as either your own country or ours can boast of. What is all the closet stuff of our Swainsons and Jamesons, and many others, in comparison with what Titian has gained in fields and woods and swamps? When I was with him in the environs of the Delaware, I soon saw that he had a perfect knowledge of the haunts of the birds found in those places. Having read Wilson very attentively in England, Peale finished me off in three weeks amongst the birds of the United States. Poor fellow! how I should have grieved to hear that he had gone to the wilds of California to gain his bread, at a time of life when his youthful exertions in the cause of science entitled him most fully to an honourable repose at home through the munificence of a just and discerning Government. When you write to him, tell him how I rejoice at the turn of fortune in his favour; and should you by chance fall in with any of those gentlemen who have befriended a most deserving naturalist in his hour of need, pray thank them from me (although I have not the honour of their acquaintance), for the benefit they have conferred on meritorious science in the person of our mutual and much-valued friend, Titian.

Should our late cause appear in print, I will not fail to send you a copy. But I rather think that the enormous expenses already incurred by both parties will make either of them shy in spending more by printing details which, for perjury and depravity, have no parallel in modern times.

About a month ago, a Malay hen hatched eleven chickens; and as the weather was very cold and rainy, they were brought up to the house, and placed with their mother in the back kitchen. She took a spite against one of them, and persisted in driving it from her. In its abandonment, my huge black Tom cat (whose name is Tom) took compassion on it, and kindly coaxed it to come and take shelter under him. He now takes great interest in it, allows it to take meat out of his mouth, and when he lies down by the fire, the little orphan squats on his side and falls asleep. My sisters send their kindest remembrance.—Believe me, my dear friend, ever sincerely and affectionately yours, CHARLES WATERTON.

To the Same.

WALTON HALL, *April* 26, 1854.

My dear Friend,—Our long and dreary winter is now apparently over, although the frosty nights show us that the grim tyrant still hovers on our confines. More trees and plants have been killed during the late season than ever were known since the remarkable year of 1814. I have lost all my artichokes, the frost having penetrated quite to their roots and destroyed every germ of vegetation in them. Notwithstanding all this, the swallows have arrived many days earlier than usual. I had sand-martins here on the 3d of March, house-swallows the day following, whilst the wild fowl in general disappeared for the high northern regions many days before their accustomed time of departure. All our summer birds of passage are here in full song, notwithstanding the frosty nights. We are sadly off for rain. The ground is parched up by a prevalent easterly wind, which does not seem inclined to change. Should rain not fall soon, our pastures will have no nutriment in them for old May-day, which, you know, now falls on the 12th of next month. My large male Cochin-China fowl dropped down dead in a fit of apoplexy the other day. It was so large that I always said it would gain the prize if I sent it to the show. I have preserved it for the inspection of the curious. I have also preserved two toucans which had been sent to me without any letter to say whence they had come. I suspect that they had died in the Zoological Gardens, Regent's Park. I never thought to live to see the day in which I should have two dead toucans lying before me on the table. Nothing short of steam could have produced so novel a sight. We are all in excellent health, and all join in kindest remembrance to you; and I may add, not without hopes, although they are certainly much diminished by the contents of your last letter, of yet having the gratification of shaking you by the hand at Walton Hall.—Believe me, my dear friend, ever most sincerely and truly yours, CHARLES WATERTON.

To the Same.

Walton Hall, *April* 15 1855.

My dear Friend,—What a winter we have had! long, and cold, and cheerless; and so severe has it been upon our evergreens that you would fancy they had all just come out of Chancery. The season is nearly a month later than ordinary, and the poor birds, what with the gun and the frost together, have suffered severely. Hitherto, I have always heard the song of the storm-cock on the 21st of December—St Thomas' day. This year, his first notes struck my ear only early in March, whilst his numbers are reduced to at least one-half. There having been a great deficiency of haws this season, I fancy that the redwing and the large fieldfare went southward on their first arrival, for I have had none of them in the park.

Poor cock-robin, the wren, and the hedge-sparrow, together with the blackbird and the yellow-headed bunting (if I may judge by their present reduced numbers), must have fallen victims to the severity of the winter. We found several water-hens lying dead, most probably for want of food. Worst of all, my Canada geese are sorely reduced in number. No doubt the major part of those missing have been killed by the gun. Day after day fellows have been prowling up and down with guns, in quest of whatever might start up in the path before them. In October last I could count nearly forty Canada geese in the park; at present I am reduced to two pairs. Yesterday I saw the first swallow for the first time this season. In general, they appear here on the 3d or 4th of April. The farmers, too, in this neighbourhood, have lost many sheep. Our wagtails only got back about a week ago. They don't leave England in general, but they retire from the northern to the southern counties, according to circumstances. Mine disappear about the middle of December and return the first week in February. This year one solitary bird revisited us in the first week of March; but it soon disappeared. Our rooks generally have eggs by the 12th of March. This year, on that day, there was not a new nest of these useful birds to be seen in the trees. Nothing seems to have thriven but the Hanoverian rat. This brute, like the family which first brought it over, exists in round numbers, and demands a most plentiful supply of food.

CHARLES WATERTON.

To the Same.

WALTON HALL, *June* 25, 1855.

My dear Friend,—Our weather here is just as usual—protean by the hour. Were it not, just now, for a good roaring fire alongside of me, I should fancy myself a winter traveller in the arctic regions. The night before last we had a strong frost; yesterday was hot and cold alternately. I can see, by the large green cherries which are now lying on the ground under the trees, that the season is most uncongenial. As for yourself, I must say that I do not pity you. Although you may be doomed to live on frog instead of beef, and be forced to gaze on a fire-place filled with showy flowers in lieu of lighted fuel, still you have a warm Parisian sun in every street to console and comfort you—a thing we never see in this cold and gloomy country.

We bird-stuffers are a very low set, very jealous of each other, and excessively prone to anger and to defamation. Take what follows as an example:—I had gone to Burlington Quay in quest of sea-fowl. Having hired a gig, I engaged a man—by name Mellor—to introduce me to the rock-climbers on the sea-coast. After we had returned to Burlington Quay, as I was walking down the street, a man—by name Wilson—came to his shop-door, and asked me to go in and look at a golden eagle which he had just stuffed. Mellor stayed in the street, seeming loathe to enter. On my rejoining him, he said, "Mr Waterton, I never speaks ill of nobody; but, I must say, that Wilson is the damnedest devil that ever came into our town!"

I am glad that you have found your old friend again. He will be a great comfort to you. I already prize him for your sake. Pray tell him that, if he should come to England, he has only to drop me a line to know that I am at home, and I will give him a hearty welcome. I like you Yankees, and I have had some of the very best specimens of information and fine feelings from your little nook of a place on the other side of the big pond.

I am anxiously waiting for another letter from you, to give me a full account of your visit to imperial Charles. You know that we all like him, notwithstanding his politics; for he saved our lives at the very time that our salvation here below appeared next to impossible. Pray, say all that is kind from us. When you visit the Jardin des Plantes, I think you may tell them from me, that their whole zoology is anything but what it ought to be—that it is fully as bad as that in the British Museum. I here speak of all the four stuffed departments—viz., quadrupeds, birds, serpents, and insects. If the chief director of that noble establishment should doubt the solidity of your remark, send him to Walton Hall. CHARLES WATERTON.

To the Same.

WALTON HALL, *September* 15, 1856.

My dear Friend,—We have had our ramble to Aix-la-Chapelle and back again through Belgium. For the first week after our arriving at the celebrated watering-place, we found the weather most charming; at least, I did. But my sisters swealed away, like a tallow candle before the kitchen-fire; whilst I myself was all pluck and animation. However, the state of things was too good to last long. Ovid remarks in his account of Actson's misfortunes, that no man ought to consider himself completely happy on this side of the grave. The sun was as hot and comfortable as on the day when you grumbled so confoundedly at me in Keby's garden at Antwerp; when suddenly, a huge mass of black clouds arose slowly in the south, and told us to prepare for a storm. The thunder and lightning roared and flashed with terrific fury, the rain fell in torrents, the wind went into the north, and from that time we had not a day that could really be called a summer's day. A similar storm visited our own neighbourhood here about the same time. It passed Walton Hall about a mile and a half from it, and scourged Badsworth, some ten miles from us, in the most awful manner. Large trees were uprooted; corn-fields utterly ruined; potatoes and turnips raised up into the air; whilst the windows in the house of a gentleman named Jones were shivered into fragments, by hailstones six inches and a half in circumference. Whilst all this was going on in the neighbourhood of

Badsworth, my gardener assures me that the weather here was quite temperate. This year we have no fruit, all was blasted in the month of May; and by what I see of my own potatoes, I have too great reason to apprehend that the disease in this most invaluable gift from heaven has once more returned.

On Wednesday last, in coming down from London, I had a most amusing adventure. In our railway carriage was a very fine and portly-looking gentleman with an elegant daughter. In his youth he had lived in our neighbourhood. When he found that I was from that neighbourhood, he talked much of his former acquaintance; and amongst other things he remarked, that Waterton lived not far from Wakefield, in a very curious house (so he was informed), replete with most exotic curiosities, and with a moat round it, full of extraordinary reptiles. Waterton, continued he, died about four years ago, but he has a son travelling now in South America. I said that Waterton must have been a blade. He has left us some tough stories in his "Wanderings," too tough to swallow. "No," said he, "although I never knew Waterton, I am sure he was an honest man. I read his character in his works." So we went on; I giving hints, now and then, affecting Waterton's veracity, and he standing up for it. The train having stopped, the good gentleman got out with his daughter. I then said, "Sir, you have been holding conversation with a phantom." "If so," said he, "it is a very substantial one." "No, sir," said I, "I am the man who died four years ago; and I will take my oath before judge and jury, that I rode the cayman, and that I slew the great serpents." "Impossible, sir," said he, "quite impossible." "Well, sir," said I, "all I know is this, that I did perform those feats, and that I do believe I am still alive, for I ate a good breakfast this morning, and I am satisfied that it went down into my inside of flesh and blood." The good gentleman stared like a stuck pig, as we say in Yorkshire, and so did his pretty daughter. But, before I bethought me to ask his name, the train moved off rapidly, and I lost, perhaps for ever, an opportunity of learning it, or of knowing his place of residence. I hope that this may find you quite well. Pray drop me a line without loss of time. My sisters send their kindest love.—Believe me, my dearest friend, ever most sincerely yours,

CHARLES WATERTON.

To the Same.

Walton Hall, *April* 9, 1858.

My dear Friend,—I received your very welcome and instructive letter of March 14, on the 31st of the same month. It really gives most sound and ample information to those who feel inclined to speculate in transatlantic securities. Should any of my rash friends consult me on the subject, I shall produce your letter; and, in offering its contents to their notice, I shall pronounce emphatically that most valuable of all words—"Beware!"

As regards myself, I have ever had a most salutary horror of speculation under any shape. I have never dabbled in the Funds, and I have resisted manfully every attempt to seduce me into railway shares and railway directorships. In banks I have suffered for my credulity. Out of three, in which I placed unbounded confidence, two have failed. And only the other day, all my malt has been confiscated—most unjustly—by our Government, because the owner of the malt-kiln died suddenly, just as I was about to send my cart to fetch it home. We live in a strange world, and in still stranger times. Nothing can exceed in atrocity the daily murders and forgeries which are perpetrated here in England—a country the "admiration of surrounding nations."

I have something curious in ornithology for you. In the year 1814 I altered the bye-wash of the water from the lake, and caused it to carry off the water from the surface instead of from the bottom. This seems to have destroyed the weeds which gave food to the coots. Up to the period of the change, we swarmed with coots; after the change, these birds all disappeared. For more than forty years I have only seen two coots on the water, and they did not tarry. Now that we have caused the drainage to run from the bottom, we perceive the former weeds rising again, and the coots have become very plentiful.

Till within these two months, our white or barn-owls—once so common here—seem to have abandoned the Park. For fifteen years I never saw or heard one; but, occasionally, I found skeletons of them. They are now here again. The screeching of these birds, and the hooting of the brown or wood-owl, are heard the night throughout, close to the house.

At the beginning of Lent, or, say a fortnight before it, we killed our hen turkies, leaving only the old male, to be served up for dinner in Easter-week. From the day that the last hen turkey was killed, the male, then in perfect health and plumage, began to show signs of sorrow. He no longer gave his well-known spring notes; he ceased entirely to strut; and he appeared to us all as though he were seeking something which he could not find. Every day he, apparently, grew more sorrowful. His downcast looks and drooping wings too clearly showed that he was sick at heart and past recovery. I ordered my man to go and get a turkey hen from the village. He did so. But she came too late. The poor old fellow took no notice of her. He was then trailing his wings on the ground, as he moved slowly from the place where I was standing. The night put an end to his sorrows. I am sure that he died quite broken-hearted.

Our weather here has been most extraordinary. The winter in general was nearly as warm as at the end of spring; but, occasionally, we have had two days of intense frost, and then a sweeping thaw. A few days ago the wind became intolerably cold from the eastward; but the weather was fine. Yesterday morning, however, Boreas and Eurus joined their forces, to show that they would still be masters of the land; and actually it has been snowing ever since.

I know not what will become of the poor birds. The rooks, being early builders, must suffer very much; and I expect that many a thrush and blackbird will be found dead in the hedge bottom. The day before yesterday I both heard and saw the chiff-chaff. "Get thee back to Africa," said I; "thou art come hither to perish."

If any of your young and comely Yankees want a rich and royal wife, send him over to us. Our Queen has got quit of one daughter, at an enormous expense to the nation, and ere long she will have another in the market. The Government papers give us accounts of how that we slay hundreds of the East Indians without the loss of a man—taking care, at the same time, that we here at home know little or nothing of the real state of things. Depend upon it, our warlike dance in India is not yet over. And then, how are we to pay the piper, with eight hundred millions of pounds sterling staring us in the face?

My little book is going into a second edition.

We live in hopes of seeing you this summer. My sisters send their love to you, and bid me assure you that they will take good care of you.—Believe me, my dear friend, ever most truly yours,

CHARLES WATERTON.

To the Same.

WALTON HALL, *July* 26, 1859

My dear Friend,—From day to day I have deferred answering your most welcome communication of June the 26th, in order to be able to tell you exactly what my summer movements would be—whether I should remain here, in this bleak and sunless atmosphere, or go to the Continent in quest of a delicious noon-day's sun in the inviting balcony of Professor Ketts at Antwerp. You may have forgotten, but I have not forgotten, the scolding you gave me for having fallen asleep when the comfortable sun-rays were imparting warmth to my uncovered skull. On Monday next we start on our way to Aix-la-Chapelle for about a month. Would that we could meet our dear western brother there! Nothing more would be wanted to complete our happiness.

Since I received your last letter, mighty deeds of death have been done amid contending parties on the fertile soil of Italy; whilst my own peaceful little valley has been visited by a thunderstorm, which, for destruction on the fields and houses, has no parallel in the memory of the present generation.

The abrupt termination of the war, as you will have seen by the papers, has astonished everybody. Nobody can account for it; and conjectures are so various and so contradictory, that there is no reliance to be put on anything which you read in the newspapers—especially in the *Times*, that arch weathercock, that swallower of a camel and strainer at a gnat, whenever it may suit its ends to gull its readers. Napoleon seems to have outwitted both his admirers and defamers, and everybody is asking, Will the peace be permanent?

At all events, let us be thankful for it, even in its present state. It will frustrate the hopes of those political adventurers, such as Kossuth and Garibaldi, whose chief aim is plunder, disguised under the specious mask of patriotism. But to the storm, so sad and desolating in its fury that my heart sickens whilst my pen commences to give you a description of it. We had got all our hay in the very best manner, and the crops of corn seemed smiling in every field around us, whilst the continuation of unusually warm summer weather filled every heart with joy. On the day of the disaster I had a picnic party here of about one hundred and twenty people. After passing a delightful afternoon in singing and in dancing, there seemed to be no reason why their festivities should not be continued till the edge of dark; but, about half-past seven, distant peals of grumbling thunder forewarned us that mischief was on the stir. The people ordered the three omnibuses, &c., in which they had come, to get ready for departure; but I desired them not to think of going away. The storm, which was slowly approaching, might catch them on their journey, and, as there were as many outside as inside passengers, they would not fail to get steeped with rain; and my advice to them was, "Stay where you are: there is abundant shelter close at hand." They followed my advice. Some got into the vehicles in the stable-yard, while others took shelter in the temples at the pleasure-grounds. Down came the rain in torrents, equal to anything I had ever seen in the tropics. The thunder roared incessantly, and the lightning flashed with fearful brilliancy, whilst the clouds assumed a red and yellow colour, which I had never observed before. We were all of us in the house, and astounded at what was going on in the heavens above us. Suddenly there fell, in countless numbers, hailstones—some as large as pullet-eggs. They broke eighty-one large glass squares in the front of the house, and drove the fragments of glass from the windows to the opposite wall in the room where we were standing. One flash of lightning seemed to be in the very midst of us. It struck a cherry-tree close to the stables. A woman in one of the carriages was holding her parasol outside of the window, in order to prevent the rain from entering. The parasol was struck and broken by the lightning, whilst her forefinger, and arm up to the elbow, were rendered perfectly numb, without having received the slightest wound. Nearly all the panes of glass in the hot-house were smashed to atoms. This was about all the injury we received at Walton Hall. My garden and corn-fields, potatoes and turnips, were spared. Not so in the village and the neighbourhood. Whole fields of wheat, barley, oats, turnips, and potatoes have been entirely destroyed. The ears of corn were cut from the stalks, and lay on the ground, as completely thrashed as though they had been under the flail. Acres of beans are now lying in absolute ruin, while entire gardens have to deplore the loss of their entire produce. I have almost forgot to mention, that one man in the stable-yard was felled to the ground by a single hailstone. This I had from his own mouth. Numbers of birds perished in the storm; and you might have seen sparrows in the different villages crawling about with only one half of their plumage. Hares and partridges have suffered severely. It is a wonderful thing that my own garden (saving the glass in the hot-house) and the whole of my farm should have escaped unscathed, whilst those of my immediate neighbours have been scourged in a manner which defies all description by means of pen and ink.

But it is time to conclude. Excuse this brief and hurried account of a thunder-storm, the destructive effect of which will never be forgotten in this part of Yorkshire. Edmund and my sisters are quite well, and send their kindest remembrance.—Believe me, my dear friend, ever sincerely yours, CHARLES WATERTON.

To the Same.

WALTON HALL, *April* 15, 1860.

My dear Friend,—I have had a fine goosander, and two of your pinnated grouse, sent to me from Canada in ice. Positively, they were as fresh as though they had only been killed the day before they reached Liverpool. Add to these, I have been employed on two monster lobsters, from our Leadenhall market. So, you see, I have had my hands full for sometime past, and that is the chief cause for my not having answered your last letter sooner. We have had a most severe winter, nearly of six months' duration; with a wind chiefly blowing from the north. Yesterday, it was from the north-east; and, although the barometer pointed to fair weather, we had a plentiful supply of snow and hail. No swallows have as yet appeared here; and I do not expect them till the wind shall have changed. My neighbour, Mr Green of Havercroft, has lost a horse, *aged forty-two years.* There has been proof positive, at Sandal Magna, of a common barndoor cock breeding with a guineafowl hen. CHARLES WATERTON.

To the Same.

WALTON HALL, *June* 27, 1861.

My dear Friend,—Your most valuable letter of June 2d has arrived. I now, for the first time, thoroughly understand the kick-up in your lately peaceful country. That all may soon be right again, is my most sincere wish. You have no need to fight. A boundless country; climates of all qualities; soils the most fertile; and citizens, for intellect, courage, and acquirements, not to be surpassed by any people in the whole world!—what more do you want? Sheathe, then, your drawn swords,—put your faces against long chimnies, and encourage ploughs and harrows. By so doing, your magnificent country will soon again be the land of milk and honey, as it was, when I visited it in the year 1824, and found it a terrestrial paradise. One short line will show you the feeling of old John with regard to yourselves. *That* party which will insure to the greedy fellow the greatest supply of cotton, will always be in greatest favour with him.

Lately, a book, said to have been written by a New York man, and published by Murray, and entitled, "Adventures in Western Africa" (or some such title), but, in fact, nothing but a romantic compilation from various sources, has caused a great stir here. M. Du Chaillu, the author, gave a lecture replete with nonsense, at the Geographical Society, and took in many of our learned closet doctors in natural history. Audubon is immaculate when compared with Du Chaillu. His adventures with the gorilla are most formidable and false. Seeing that they militated directly against what I had written on the monkey-family in my last volume of essays, I considered that I had a right to take up the pen in self-defence; and I have warmed his hide in the last five or six numbers of the *Gardener's Chronicle*, edited by my worthy friend, Dr Sendley. I herewith send you a copy of my last. Methinks some of your societies in Philadelphia must take the *Gardener's Chronicle*. It has a wonderful range throughout Europe. Pray get a few of the last numbers, and then you will have all the correspondence. Gray, of the British Museum, has flogged the adventurer soundly in the *Athenæum* of June the 8th.

It is really astonishing that our learned doctors in zoology should have been so gulled. Du Chaillu makes his gorilla a man in everything but speech. It knocks down a negro with a single blow of its fist; breaks the gun-stock, bends the gun-barrel; and smashes the man's ribs, &c. Now our learned professors ought to know that only animals with retractile claws, such as lions, and every individual of the cat family, strike down their prey with the forefeet; whilst animals with non-retractile claws, such as wolves, foxes, dogs, and monkies, &c., make attack and defence by the mouth alone; the feet acting as mere props to steady their bodies. I am quite convinced, in my own mind, that Du Chaillu's adventures in the land of the gorilla are nothing but impudent fables. He always meets the gorilla on the ground. It ought to have been in trees. I suspect strongly that the traveller has been nothing but a trader on the western coast of Africa; possibly engaged in kidnapping negroes, and that he has bought his skins of negro-merchants from the interior. Be all this as it may, old Mr Bull is firmly persuaded that your countryman is a nonsuch for veracity and adventures; and if he had only brought cotton in lieu of monkey-skins, ere long, he would have a statue raised in his honour. I wish that I could persuade you to step over to Walton where I have plenty to show you and to amuse you. We are thinking of going as usual to Aix-la-Chapelle.

Edmond is in London; we expect him daily. We are all in excellent health; and my sisters send their kindest love to you.—Believe me, my dear friend, ever most truly and affectionately yours,

CHARLES WATERTON.

To the Same.

WALTON HALL, NEAR WAKEFIELD,
September 11, 1862.

My dear Friend,—The dislocated thumb gets better. Had I followed our old bonesetter's instructions, it would have been in writing order long ago; but we young fellows will always have too much of our own way. Some time ago a young naturalist sent me word, that I was quite wrong in placing the cheetah or hunting leopard in the cat family, as it had not retractile claws, but ought to be considered as an intermediate species betwixt dog and cat. I felt determined to crush this heresy at once. So last week when I was at the Zoological Gardens in the Regent's Park, I got permission to enter into the leopard's den. He was a noble fine male; and I played my cards so well, that he allowed me to examine his forepaws most minutely. I fully satisfied myself that his claws are retractile. Therefore, in his nature, form, and feature, he is a veritable and genuine cat; and he is not in any way allied to the dog family. Pray excuse this scrawl. My thumb begins to ache. We have very little fruit this season. My sisters are in fair good health, and they most kindly send their love to their invaluable kind friend, Mr Ord.—Believe me, my dearest friend, ever yours, most sincerely,

CHARLES WATERTON.

To the Same.

WALTON HALL, NEAR WAKEFIELD,
April 11, 1863.

My dear Friend,—Our winter has been one of extraordinary mildness during the day, but of keen frost during the night. No snow has fallen, except a few flakes which did not tarry with us a single hour. The ordinary vegetation is fully one fortnight in advance; and I fear much for our cherry-trees, which are dropping their magnificent blossom to the ground. Notwithstanding the mildness, our summer birds do not make their appearance. In the year 1830, I saw here two sand martins on the 29th of March. But this year, not one of our four species of swallow has made its appearance. Proof positive, one would think, that none of those birds take up their winter quarters with us. I wish that you were here to see my cherished denizens within the park walls. The herons, owls, kestrels, crows, magpies, jackdaws, rooks, and jays, are enjoying themselves in perfect security, and are never broken in upon by the lawless rabble of a manufacturing district. By the way, when will your cruel civil war cease? It is playing the hangman with our cotton lords, who, before it broke out, fancied themselves to be beyond, far beyond, any kind of misfortune. They are now pretty well humbled: and they will be still more humbled. Who pities them? We are all in pretty good health. Should you see or write to Titian Peale, make my kindest remembrance to him. Eliza and Helen send their love to their dear old friend, whom they long to see.—Believe me, ever sincerely yours, CHARLES WATERTON.

A Letter to Robert Jameson, Esq., Regius Professor of Natural History; Lecturer on Mineralogy and Keeper of the Museum in the University of Edinburgh; Fellow of the Royal Societies of London and Edinburgh; of the Antiquarian, Wernerian, and Horticultural Societies of Edinburgh; Honorary Member of the Royal Irish Academy, and of the Royal Dublin Society; Fellow of the Linnean and Geological Societies of London, &c., &c.

"O Candour! whither art thou fled? Certainly not to Walton Hall."—*Jameson's Journal*, Jan. 1835.

Sir,—If it be any satisfaction to you, I beg to inform you that I feel the full force of your apostrophe. You have aimed a severe blow at me, which I did not expect from you; nor do I think I have deserved it, as I am not aware that in all my life I have ever written or spoken one unfriendly word against you. Too often it happens that many a poor humble bee is trodden under foot which never stung the passing traveller. Through Audubon you have aimed a blow at me; through Audubon I will level a shaft at you in my turn, with aim so just and true, that it will be utterly out of your power to ward it off. It is a matter of perfect indifference to me whether you praise or condemn Mr Audubon—that is entirely your own affair Had you not condescended to have noticed me in your recent review of his second book on the "Biography of Birds," you might have given your lucubrations to the world without animadversion from me, and continue them on any future day, without ever meeting my censure or applause. If, however, my opinion were asked, I should say that I do not consider you qualified to review a book on ornithology. Somehow or other, I happen to have acquired just a sufficient stock of ornithological knowledge, to enable me to perceive errors and misrepresentations innumerable in Audubon's pages; and I have seen a work recently from America, which convinces me more than ever that his statements are not to be relied upon.

But to the point. I rubbed my eyes and began to suspect their powers of vision, when I read the following precious morsel of absurd fabrication in the *Edinburgh New Philosophical Journal of Science*, for April and June 1827, conducted by Robert Jameson, Regius Professor of Natural History in the College of Edinburgh :—

"To give you an idea of the long time this poison retains its property, I shall relate a curious but well-authenticated series of facts, which took place in a central district of the State of Pennsylvania, some twelve or fifteen years ago. A farmer was so slightly bit through the boot by a rattlesnake, as he was walking to view his ripening cornfields, that the pain felt by him was thought to be the scratch of a thorn, not having seen or heard the reptile. Upon his return home he felt on a sudden violently sick at stomach, vomited with great pain, and died in a few hours. Twelve months after this, the eldest son, who had taken his father's boots, put them on and went to church at some distance. On his going to bed that night, while drawing off his boots he felt lightly scratched on the leg, but merely mentioned it to his wife, and rubbed the place with his hand. In a few hours, however, he was awakened by violent pains, complained of general giddiness, fainted frequently, and expired before any succour could be applied with success—the cause of his illness also being quite a mystery. In course of time his effects were sold, and a second brother, through filial affection, purchased the boots, and, if I remember rightly, put them on about two years after. As he drew them off, he felt a scratch and complained of it, when the widowed sister, being present, recollected that the same pain had been felt by her husband on the like occasion; the youth went to bed, suffered and died in the same way that his father and brother had before him. These repeated and singular deaths being reported in the country, a medical gentleman called upon the friends of the deceased to inquire into the particulars, and at once pronounced their deaths to have been occasioned by venom. The boots that had been the cause of complaint were brought to him, when he cut one of them open with care, and discovered the extreme point of the fang of a rattlesnake issuing from the leather, and assured the people that this had done all the mischief. To prove this satisfactorily, he scratched with it the nose of a dog, and the dog died in a few hours from the poisonous effect it was still able to convey."

Pray, sir, where were your brains (whither had *they* fled? Certainly not to Walton Hall) when you received, and approved of, a narrative at once so preposterous and so palpably fictitious? I have too high an opinion of your well-known integrity, even to suspect for one moment that you inserted it in your journal with the most distant intention of misleading your readers. I attribute the rash deed solely and wholly to your ignorance,—ignorance quite unparalleled and unpardonable in REGIUS PROFESSOR OF NATURAL HISTORY. If I am rightly informed, sir, you are proprietor of a Museum, wherefore you must have had much more frequent and much better opportunities of improving yourself in zoology than generally fall to the lot of other scientific gentlemen. Has then the dignity of the regius professorship lulled you into such a fatal security that you have never once thought it necessary to examine the point of a serpent's fang? which had you done, you never would have admitted Audubon's account of the rattlesnake into your journal; and thus you would have avoided that which, when this letter appears, must fill your friends with pity and your admirers with regret. Audubon expressly states that it was the extreme point of the fang which had done all the mischief; and in order to prove the correctness of his "curious but well authenticated (mind that, sir) series of facts," he introduces, to his everlasting confusion, a medical gentleman, who most opportunely discovered the *extreme point* of a rattlesnake's fang sticking in the boot which he had cut open, and then this said medical gentleman (who was he?) gravely told the bystanders that this extreme point had done all the mischief. By way of putting beyond all doubt his important discovery, "he scratched with it the nose of a dog, and the dog died in a few hours."

Now, sir, as we are upon snakes, let me ask you, in the name of the old Sarpent (as Jonathan calls him), when you read this blundering narrative, did you not recollect that the *extreme* point of all serpents' fangs is a solid bone? and that the aperture through which the poison flows, when the snake is alive, is on the convex side of the curved fang, at a distance from the point? This being an absolute fact, it is utterly impossible that the dog could have been poisoned by a scratch. Suppose, for an instant, there was poison in the aperture, that poison was in a dead state, and before it could have been moistened, the booby of a doctor would have had to thrust the broken fang into the nose till the orifice was covered, and there it must have remained for some time before its contents could be in a state to enter the circulation. Again, sir, did it not occur to you, that the wound which the farmer received, and which was so slight "that the pain felt was thought by him to have been from the scratch of a thorn," could not, by any chance, have been from the bite of a serpent, as you must have known, or at least you ought to have known, that the sting from a snake's fang always causes instantaneous and most excruciating pain. So does the sting of our wasps and bees, which are mere pigmies to the smallest of the poisonous snakes. The *tooth* of a snake is fixed in the socket; the *fang* of a snake is movable, and invariably on the upper jaw. Now, I am decidedly of opinion that no rattlesnake could strike the point of his fang through an American farmer's boot. But, granting that Audubon's snake did in this case, then the point of the fang must have been rankling in old Jonathan Clodpole's flesh all the time he was walking home, for the boot would fit just as closely to his leg after he had received his wound as before it. What I have said of the dog will apply equally to the two younger Doodles, who got their deaths by jumping into their father's boots. But, sir, when you come to that part of the narrative where you are told that the eldest son, twelve months after, put on his father's old tormentors, and walked to church in them, did you not marvel how he could walk out in them all day, and only just get a slight scratch on the leg when pulling them off at night to go to bed? And when the other brother put them on, about two years after, and got his death also by a scratch, did you not wonder from whence the poison came?

However, sir, to cut the matter short, and in order that I may not run the risk of annoying you by too many questions, I beg to assure you that the story of this depopulating Munchausen boot, which you have swallowed without straining, was current when I was a boy. With the exceptions of a few interpolations by Audubon, this very same story (which he had the effrontery to tell you all in Edinburgh was well authenticated, "and took place in a central district in the State of Pennsylvania some twelve or fifteen years ago") was considered a good joke some fifty or sixty years back. The late Professor Barton, of the University of Pennsylvania, investigated it at the period of his publishing his pamphlet on the rattlesnake, and it turned out to be AN ARRANT YANKEE-DOODLE HOAX.

I have done, sir, for the present, though I have a scourge of fearful asperity ready for other parts of "Mr Audubon's Notes on the Rattlesnake" which he *saw* swallow a large American squirrel, tail foremost, to say nothing of the passenger-pigeon, &c., &c. Sometime or other, but not now, I may have occasion to comment on other papers which have appeared in your journal with the signature of Audubon attached to them, and may yet consider it necessary to show to the public that you are no better qualified to review a work on birds than you are to lecture on the poisonous fangs of snakes. Cervantes formerly exclaimed, "Para mi solo necio Don Quixote, y you para el. El supo obràr, y yo escrivèr." * As far as a knowledge of the true habits of rattlesnakes is concerned, this quotation may be aptly applied to Robert Jameson, Esq., Regius Professor of Natural History in the College of Edinburgh, and to Mr John James Audubon, Fellow of the Royal Society of London.

If the contents of this letter should sting you, pray reflect, sir, that you deserve to smart a little for your wanton imprudence in holding up to public animadversion the conduct of a gentleman who has never used you unkindly either by word or deed. You are a regius professor, with above forty honorary titles after your name; I—am a private individual, scarcely known, whose care it is through life never to be the aggressor, but who will always resist to the utmost any attack made upon him, come from what quarter it may.

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* "Don Quixote was born for me, and I for him. He knew how to manufacture and I to write." We are just the boys for each other.

I gratefully attribute whatever knowledge I may possess to the learned and inestimable Fathers of the Society of Jesus at Stonyhurst, in Lancashire. I have travelled in far distant countries, to study animated nature; and many quadrupeds, many reptiles, and above five thousand birds, have passed under my dissecting knife; so that I ought to know something of zoology: and, were I not fearful of being thought vain, I would add, that I consider myself your superior in that department of natural history.

Should you honour me with a reply, I promise you that I will take an immediate and dispassionate notice of it; and I will address to you a second, a third, and a fourth letter, and so on. As you have first attacked me through Audubon, through him I will continue to point my dart at you. It shall be in the following manner:—I will take passages from some of his faulty pages, and then comment upon them: his bird of Washington, for example, in which I shall have to remark on the drawing; or the humming-bird, which he tells us can fly in six days after it is hatched, &c., &c. This mode of carrying on the warfare will answer well my ends. It will give me an opportunity of again bringing on the stage certain individuals with whom I have not yet quite squared up accounts; and, at the same time, I trust it will be to you a kind of *cave ne titubes*—that is, a hint, a warning—lest you make another false step in your exertions to sound again in the public ear, "O Candour! whither art thou fled? Certainly not to Walton Hall."

I have the honour to be, sir, your very obedient and humble servant,

CHARLES WATERTON.

WALTON HALL, *January* 27, 1835.

To J. M. Hog, Esq.

WALTON HALL, *March* 19, 1844.

Sir,—Your communication to Mr Dixon is so much to the purpose, and contains such sound arguments, that I consider a report from myself would be nearly superfluous.

However, at your desire, I will enter briefly into the subject, for I hold the rooks in great request.

We have innumerable quantities of these birds in this part of Yorkshire, and we consider them our friends.

They appear in thousands upon our grass lands, and destroy myriads of insects. After they have done their work in these enclosures, you may pick up basketfuls of grass plants all injured at the roots, by the gnawing insect. We prize the birds much for this; and we pronounce them most useful guardians of our meadows and our pastures. Whenever we see the rooks in our turnip fields, we know then to our sorrow what is going on there. We are aware that grubs are destroying the turnips, and we hail with pleasure the arrival of the rooks which alone can arrest their dreaded progress.

I have never seen the least particle of turnip or of turnip-top in the craws of rooks, either young or old. If these birds feed on Swedish turnips in Scotland, they abstain from such food here, so far as I can learn by inquiry. Perhaps they may be taking insects in the time that they are seen perforating the turnip. Dissection would set this doubt at rest for ever. No farmer in our neighbourhood ever complains that his Swedish turnips are injured by the rook.

The services of the rook to our oak trees are positively beyond estimation. I do believe, if it were not for this bird, all the young leaves on our oaks would be consumed by the cockchafers.

Whilst the ringdove is devouring the heart shoot of the rising clover in spring, you may see the rook devouring insects in the same field.

The flesh of the rook is excellent. I consider it as good as that of the pigeon. People in this part of the country peril their necks for a dozen of young rooks, even at the risk of a penalty for trespass.

In 1814, eight tailors and a tailor's boy left Wakefield on a Saturday night, to enjoy a fiddling party at a village called Himsworth, some six miles hence. In returning home on Sunday morning at three o'clock, they were seized with a vehement desire of looking into my rookery. The keeper surprised them in the act of helping themselves, and as he knew personally the major part of them, they consented to appear before me. The fellow had a touch of a wag in him, and he introduced them thus: "If you please, sir," said he, "I have catched eight tailors and a half stealing young rooks."—"Well," said I, "after all this noise on Sunday morning, you have not managed to bring me a full man" (for we all know in Yorkshire that it requires nine tailors to make a man); "send them about their business; I can't think of prosecuting eight-ninths and a half of a man."

The faults of the rook, in our imperfect eyes, are as follows:—

It pulls up the young blade of corn on its first appearance, in order to get at the seed grain still at the root of it. The petty pilfering lasts about three weeks; and during this period we hire a boy at threepence a day, sometimes sixpence, to scare the birds off. Some years we have no boy at all. Either way, the crops are apparently the same in quantity every year. In winter the rook will attack the corn-stacks which have lost a part of their thatch by a gale of wind. He is a slovenly farmer who does not repair the damaged roof immediately; and still, we have farmers in Yorkshire of this description.

The rook certainly is too fond of walnuts, and it requires to be sharply looked after when the fruit is ripe.

In breeding time it will twist off the uppermost twigs of the English and Dutch-elm trees, and sometimes those of the oak in which its nest is built, for the purpose of increasing it. This practice gives the tops of the trees an unsightly appearance, and may injure their growth in the course of time. Sycamores, beeches, firs, and ashes escape in great measure the spoliation.

It ought to be generally known, that, in former times, the North American colonists, having banished the Grakles (their rooks), the insects eat up the whole of their grass; and the people were obliged to get their stock of hay from Pennsylvania, and from England.

And, in the island of Bourbon, the poor eastern Grakles disappeared under a similar persecution. The islanders suffered in their turn, for clouds of grasshoppers consumed every green blade; and the colonists were compelled to apply to Government for a fresh breed of Grakles, and also for a law to protect them.

Thus it appears from history that the sages of the East, and the wise men of the West, did wrong in destroying their Grakles. They were severely punished for their temerity, by the loss of their crops. They repented and repaired the damage; and, so far as I can learn, things have gone on well betwixt themselves and the Grakles, and betwixt the Grackles and their crops, ever since. In 1824 I saw immense flocks of these birds in the low meadows of the Delaware.

I defend my sable friends, the rooks, here in England, on account of their services to the land. Should the adverse party effect their extirpation from Scotland, and then suffer by the ravages of the grub, I will at any time be happy to send you a supply of these useful and interesting birds.—I remain, sir, your most obedient servant,

CHARLES WATERTON.

To Bishop Briggs.

WALTON HALL, *March* 1, 1846.

Mr Waterton's respectful compliments and thanks to the Right Reverend Dr Briggs, for his "Exhortations and Regulations for Lent."

Mr Waterton, aware that his Ass (the name which St Francis of Assissium most appropriately gives to our mortal frame) is a stubborn and unruly beast, begs leave to state, that he put a strong curb into its mouth, about six weeks ago; by which precaution, he confidently hopes, that the brute is already tolerably well broken in for Lent, and will not take boggle at trifles, but go on good-humouredly over the barren moor which leads to the distant clover fields of Easter Sunday.

Reason and Instinct in Birds.

"Tros Tyrusve mihi nullo discernam."

I never lose my time in trying to decide the matter between these two rival points.

I well know that some foreign birds build their nests in extreme ends of branches,—witness the cassiques and the orioles, and other birds in equally safe positions; witness the wrens, in little pots provided for them,—still I cannot bring my mind to imagine for one moment, that they choose these situations to protect their progeny from the attacks of serpents. Nature is ever solicitous for the welfare of all her productions; and if she saw the necessity for some orders of birds building their nests, so as to escape the visits of serpents, she would equally see the same necessity to provide security against serpents in other orders of birds. But this is not the case. All the species of tanager in the tropics, and innumerable other species, make their nests in places where any serpent can have access to them.

Again it is preposterous to inquire for one moment, that the Cape Cormorin birds light up their houses with fire-flies to scare away the bats, lest the bats should kill the children in the nursery. Firstly, bats do not prey upon young birds. Secondly, the light emitted by the fire-fly, placed at the nursery-door, could not by any chance scare away the bat, for the bat lives upon it, and is perfectly accustomed to the light, as it ranges all night long in the midst of millions of fire-flies. Thirdly, the old bird would have gone to roost before the fire-flies appear; and if it by chance got a few, it would have some trouble in placing the fire-fly on the clay, in order that its phosphoric light might have effect. With some few exceptions, the light is on the back of the insect, and invisible when the electra are closed. The bird would require a pin, or a needle and thread, to keep them expanded. Again the inmates of the nest itself are fond of fire-flies. Methinks I hear the following dialogue:—

"Mammy, I'm still hungry, and have room in my stomach for two or three more flies. I wish you would reach me those you have just stuck up at the nursery-door."—"I can't, my chuck; they are to act as mould candles, to keep away the bats which would eat you up." —"What are bats, mammy? I never have seen such a thing in our nursery."—Pardon me, ye serious ornithologists. The subject on which I am writing is a farce, and I must treat it as such. Ye grave doctors in zoology, pardon the effusion. I cannot treat the subject otherwise.

Incubatory propensities of the "Hedge Accentor."

Sir,—Having examined attentively the article "Cuckoo" in your last *Chronicle*, I beg to state for the benefit of your ornithological perusers, that I have just now in a clipped holly-bush, a hedge sparrow's nest with three unfledged young ones in it. On Wednesday last it had three eggs in it. On Saturday it contained three young birds, apparently just hatched. This morning, Monday, I have inspected the nest, with three little hedge-sparrows in it. They gaped for their breakfast, and appear to be doing well. Men of science now call this sweet warbler the hedge accentor; but here, in Yorkshire amongst us natives it always goes by the name of Dicky Dunnock. Should any of your readers remark, with Cervantes, that "one swallow does not make a summer"—"una golondrina no hache verano," I will further add that the year before last, in the last week of August, I found a Dickey Dunnock's nest here, in a yew-bush, with four eggs in it.

TO THE "GARDENERS' CHRONICLE" *August* 4, 1851.

To the Rev. A. C. Smith.

WALTON HALL, *June* 23, 1857.

Dear Sir,—I will try my best to give you the instructions you require. You must not use arsenical soap,—for two reasons. First, as it cannot be applied to every part of the skin, *inside and out*, it is not efficient. Secondly, the frequent use of it would injure your health. Last year, seeing poor Mr Johnson, of the Royal Liverpool Institution, broken down in health, I asked him to Walton

Hall, and he accepted the invitation. On questioning him as to what had brought him to his present state, he said he had been for weeks preparing skins of lions, &c., and that he had been working up to the elbows in arsenical soap. He returned to Liverpool and died. Now, there is no danger whatever in using the dilution of corrosive sublimate in alcohol, because, being liquid, no dust, or small particles, can be taken into your system through the medium of breathing. Moreover, although corrosive sublimate be the most deadly poison known to *insects*, it is not so deadly to other animals; and I can assure you that, although I have used it most copiously for above forty years, I have never experienced the smallest inconvenience from it. I once read of a Turk who was in the habit of taking sixty grains of corrosive sublimate per diem. But do not misunderstand me. I never use the sublimate in paste, or powder. With this preliminary I will now proceed to business; first recommending you to read attentively what I have written on this head in the "Wanderings" and "Essays."

Every feather and every part of the bird's skin is the natural food of the insect. The insect also feeds on furs, &c. Now, to secure these articles from the depredations of the moth, they must be either enclosed in an aromatic atmosphere, or they must be steeped in a solution of corrosive sublimate. The first is troublesome at times, and will fail for want of due attention. Thus, when I was leaving Rome for Naples, I had two large trunks of specimens, and I wished them to stay in Rome till my return. This was during summer; a period when the appetite of the moth is most keen. Into each of these boxes I put the wing of a bird, which had been skinned, but not steeped in the solution. On my return, the feathers of these wings were entirely consumed, whilst the feathers of the prepared birds were untouched. Corrosive sublimate is easily carried with you when on your travels. Perhaps the best mode of conveying it in powder is in a flask surrounded by leather, such a one as shooters carry to hold brandy. Alcohol is cheap and plentiful abroad. The corrosive sublimate must be very finely pounded. Highly-rectified spirit of wine may be diluted with water equal in quantity. Thus, to one quart bottle of alcohol, I would add one quart bottle of water. Into this, I would put a table-spoonful of corrosive sub-

sublimate, and nothing more is required. See the "Wanderings."

Birds must be steeped in the solution *before* they are skinned; quadrupeds, after they are skinned. In steeping waterfowl, more attention is required in steeping land birds, because the feathers of the first are more impenetrable.

Let us steep a duck. I put it on its back in any convenient vessel, and then shake it well, first by holding it by the beak, then by the feet, then by one wing, and so on, till every part of the plumage is completely saturated. This done, the outside of the bird is poisoned for ever. I then hold it up by the *beak* and press every part of the plumage down with a little stick, in order to drain off the liquid. This done, I go to the kitchen fire, if there be none elsewhere, and hold the bird to it, first one side, then the other; and I often shake it in the air till I get the whole of the plumage completely dried. I then dissect it, and I wash the inside well with the solution (see the "Wanderings"); and all is done for ever, as far as preserving your specimen from the depredations of the moth is concerned.

The quadruped must be skinned *first*. This done, put it into the solution; then, with a brush, such as you use for hair, brush it well, first downwards with the natural range of the fur, and then upwards, until you have completely cleansed it of all its impurities. This done, stuff it whilst it is wet; or if you only want the skin, then place it on a board, and dry it, taking care to brush it from head to tail, and you will have a skin as clean and beautiful as can possibly be imagined; and no matter where you stow it away (after the skin is quite dried), it will be perfectly safe from the moth and damp.

If these instructions be not sufficiently clear, you must point out the obscurity, and I will try and throw light on it. Should you pass the winter in Rome, you will find, in superabundance, the finest specimens of nearly all the European birds, lying for sale on the stalls of the Pantheon. Wags used to call this quarter of Rome my studio. I would sometimes visit it four times a day, and I always found something new.

I forgot to mention that insects must be steeped *after* they have been dissected. So must serpents.

Letters on Bird-Stuffing.

To the Editor of the Illustrated London News.[*]

Sir,—Your weekly publication is always read at Walton Hall with pleasure and profit.

As you have done me the honour to place my name in so advantageous a light, I trust that you will kindly allow me to draw your attention to the following points.

I had been requested to send specimens to the Great Exhibition, but I declined to do so. Nevertheless, in order to show the lovers of natural history what can be done in taxidermy, when true principles are called into action, I have sent specimens in the four departments of quadrupeds, birds, reptiles, and insects to the Royal College of Surgeons; and I feel emboldened to say, that if you would do me the favour to inspect them, I am sure Professor Owen will obligingly show them to you. When I had examined the natural history in the Exhibition, I went away dissatisfied; and I am confident that you yourself will experience a similar feeling, when you shall have inspected the specimens which I respectfully submit to your notice.

The mode of preparation universally followed in taxidermy is so devoid of real principle, that he who pursues it, be he ever so clever and intelligent, will never succeed in producing an exact copy of nature's true form and appearance.—I have the honour to be, sir, your obedient servant, CHARLES WATERTON.

Letter of the Rev. Mr Dennis to the Editor, &c.

Sir,—I have just read in your excellent paper, Mr Waterton's stricture on the taxidermy in the Great Exhibition, and with all my respect for the eminent naturalist's opinion, I cannot bring myself, being an exhibitor in that art, tamely to submit to them. The peacock I exhibited, was, when I left it there, I felt convinced, a very near approach to the peculiar character of that bird when its wondrous train is expanded. Now, possibly, having no case, the currents in the building may partially have disarranged the tail feathers.

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[*] This letter was printed in the *Illustrated London News.* Mr Dennis attacked it, and hence the ensuing correspondence.

During the process of stuffing the bird (which occupied, for want of leisure, several months), I made the live bird my study; and if that is not *the real principle of taxidermy*, I know of no other. The mechanical processes are merely accessory. The creature must be seen alive to be stuffed properly. If any person is curious enough to compare some snowy owls in the Exhibition with one *alive* in the Zoological Gardens, he would hardly know them to be birds of the same species. It was my intention, when the Exhibition was over, to offer the peacock to the British Museum; and I think I cannot do better than fulfil that intention; perhaps Mr Waterton will allow it is good enough for that purpose.

May I beg the favour of the insertion of this note.—I have the honour to be, sir, your very obedient servant,

J. B. P. DENNIS.

BURY ST EDMUNDS, *September* 8, 1851.

To the Editor, &c.

Sir,—If the public had been duly informed that the specimens of taxidermy in the Crystal Palace were deposited there for admiration only, I should not venture to trouble you with these few lines.

Under the delusion that a man's opinion is always considered free in public exhibitions, I now find by the communication of the Rev. J. B. P. Dennis to you on the 18*th*, that I have been in error; and that I ought not to have sent you the remarks which you kindly admitted into your columns of *August* 2. I crave pardon for the mistake—*Humanum est errare.*

That gentleman (by having used the word "perhaps" in his late communication) seems to doubt that I will allow his stuffed peacock to be good enough for presentation to the Crystal Palace. His "real principle of taxidermy" ought to have suggested to him, that much time, very much time and labour, are to be spent upon the legs and feet of large birds, especially in order to make these parts retain their pristine form and beauty.

On viewing the shrivelled legs and toes of Mr Dennis's peacock, we feel dissatisfied; and we are at a loss to determine whether inability or neglect has been the cause of such a lamentable deformity in his bird. When your reverend correspondent shall have cleared up this little matter satisfactorily, I will then invade the upper regions of his peacock. At present it were useless to inspect the garret, when the foundation itself is seen to be defective.—I have the honour to be, sir, your obedient servant,

CHARLES WATERTON.

WALTON HALL, *September* 27, 1851.

Letter of the Rev. Mr Dennis to the Editor of the Illustrated London News.

Sir,—If Mr Waterton's sally has not quite cut away my *understanding*, it at least aims at leaving poor "Pavo," like the squire in the ballad, "in doleful dumps." I beg Mr Waterton's pardon; the pegs stand before the *person* of the bird. I have fallen inadvertently into the vain humour of the creature which is said to lament the thickness of its timbers. I acknowledge my fault. *Humanum est errare.* Even Waterton's "Wanderings" form no exception. My adversary, I confess, has touched me on a weak point; and no doubt, his quick eye, upon the rule of setting a thief to catch one, has found many more. If not, I can show him them, and gladly too, for I never said that the bird was perfection,—a copy at most. I only asserted what I find Mr Waterton in no mind to deny, that the appearance of the bird is a near *approach* to its peculiar character, when its tail is spread, and that to copy nature in all her ways, is the true principle of the art. If your readers disbelieve that this has been in some measure accomplished, I say, let them suspend their judgment until they have an opportunity of seeing the bird alive. I quite agree with Mr Waterton's observations about the legs of large birds; and it was my intention to have attended to those of the bird in question; but at the time (no exhibition of it being then thought of) I had not leisure. I could point out several other defects from accidental causes; but none of them are of a nature to draw us away from the question Mr Waterton started, with reference to the principles of taxidermy in the Exhibition; who now finding himself attacked, and hard pressed upon it, is fain to beat a retreat by the legs of my peacock. He seemed to wish to sit supremely elevated as a critic in the art; but to use his own *happy* expression, (omitting its grammar) was too *wide* awake to have sent any illustrations of his execution in it to the Crystal Palace.

Remember Icarus's height
(Perhaps the observation stings);
Thou shouldst have asked before thy flight
Dame Wisdom for a pair of wings.

May I, sir, crave your indulgence once more only?—and I have the honour to remain, sir, your obedient servant,

J. B. P. DENNIS.

The Peacock at the Crystal Palace.

To the Editor.

"Quantum mutatus!"

Sir,—By Nimrod, this is the most unsightly bird that ever a wandering forester fell in with! Could Juno see her once comely pet in such a sorry plight, would she not scold the author of all its miseries?

Where are the peacock's nostrils I ask? Where is that arched protuberance on the bill, which in life was so apparent, and guarded the nasal sinuosities? Alas it has shrunk to nothing, causing the face of the bird to be as ugly as that of poor Deiphobus, the Trojan, *truncas inhonesto vulnere nares!* Let us proceed onwards, and take a view of the head. There is much that ails it. The crown is wrong, the cheeks are wrong, the orbits are wrong, and the ears are wrong.

The skin, not dissected to where the beak emerges from it (although it ought to have been), has dried upon the cranium. A similar disaster is visible at the mandibles. The orbits, with their inner skin still adhering to them (and which should have been cut away), are distorted and irregular, and far too large; whilst the fleshy integuments at the ear, having no business to be left there, cause the present forbidding appearance in that quarter.

The "real principle of taxidermy" ought to have suggested to the operator, that, in order to make these parts retain their pristine appearance, there required minutest operations for many a day, after the bird itself had been set up. Thus, for instance, had the skin been effectually prevented from adhering to the jaw-bones, and to the cranium; had the orbits been subjected, day after day, to a most delicate adjustment, the artificial eyes having been removed each day to facilitate that adjustment; had the parts at the ear undergone an entire dissection; had the rotundity over the eyes, so beautiful in life, been perfectly restored; and lastly, had every individual feather been arranged according to nature's unerring plan,—then, indeed, the admirer of her charming works would not have had his nerves affected, and his eyes disgusted, by a spoliation of plumage, and a deformity of physiognomy in this unfortunate peacock, extending quite away from the nostrils to the neck. Cervantes says, "quando la cabeza duele, duelen los miembros," that is, when the head is out of sorts, so are the members. This I will show in my next communication.—I have the honour to be, sir, your obedient servant, CHARLES WATERTON.

The Peacock in the Crystal Palace.

To the Editor of the Illustrated London News.

"'Tis out, my lord, in every one of its dimensions."

Sir,—Leaving the head and all its ailments to a consultation of doctors deeply versed in modern taxidermy, I proceed to examine the neck and breast, so true in their proportions when the bird was living—so altered now in death. Their once charming hue no longer meets the eye. Their feathers lie in sad confusion, and forcibly condemn the hand that has placed them in such a distressing irregularity.

Had the reverend operator been aware that skin is thickest where the feathers grow, and thinnest where there are none, he might have prevented the ugliness which he has stamped upon these ill-conditioned parts.

By the practice of internal modelling, he would easily have gained his end. But such has been his perverseness in pursuing the old illusive path, that he seems never once, even by mere chance, to have deviated into the right road.

The thighs are sickly objects, and are in neglected plumage. One is smaller than the other, as though it were labouring under an attack of long protracted rheumatism, whilst gross mismangement at the knees is painfully apparent.

The shoulders, too, are twisted out of symmetry; and the feathers on the rump, for want of daily attention to them, have been allowed to dry down flat upon the skin, flat as a shrovetide pancake; and this, too, in the immediate vicinity of an elevated tail!

Craving a small corner in the next *Illustrated News* for a short concluding paper.—I have the honour to be, sir, your obedient and humble servant,

CHARLES WATERTON.

SCARBRO', *October* 25, 1851.

The Peacock in the Crystal Palace.

To the Editor of the Illustrated London News.

> "Ad imum
> Qualis ab incepto."

Sir,—When spring has showered her choicest bounties upon our favourite feathered tribes, 'tis then we see the peacock's train in all its pride and glories. But when the Rev. Mr Dennis tries to "copy nature in all her ways," 'tis then he makes a mockery of nature, and shrouds her every charm.

Feathers in the tails of birds are moved by one muscle, and the movement must, of course, be uniform. Unlike our fingers, a shaft in the peacock's tail cannot move singly. Hence the whole of the radiation is regular. Had our operator trusted to his hands and to time alone, without the marring use of wires, he might possibly have been successful in some degree. But as the bird now stands, there can scarcely be seen two shafts which radiate equally, whilst all the minor plumage is irregular and distorted. In fact, there is no truth throughout the entire train. He has produced, at best, a gorgeous display of taxidermal impotence. We may say of this peacock what the Roman poet said of the young married lady, *splendide mendax*. The wings are on a par with the rest. Their skin cleaves to the bones, and thus causes the pinions to be as angular as Don Quixote's horse.

The Reverend Taxidermist, having cited me by name before the public, and having expressed at the same time a hope that, perhaps, "Mr Waterton" will allow his peacock to be good enough for the "British Museum," I had no alternative but to meet the summons.

Wishing the peacock of the Rev. J. B. P. Dennis a safe journey to its intended destination, and thanking the editor very sincerely for his attention in admitting my scraps,—I have the honour to be his very obedient servant, CHARLES WATERTON.

SCARBRO', *October* 29, 1851.

To the Superioress of the Convent of the Good Shepherd at Dalbeth.

WALTON HALL, *Nov.* 30, 1853.

Dear Madam,—In your letter of petition, in support of your excellent Institution, you have asked for the crumbs which fall from my table. If a joke may be allowed on a serious subject, I would say in answer, that all the crumbs which fall from my table are mortgaged to a huge Cochin-China fowl, which receives them in payment for awaking me by his crowing every morning at three o'clock. But as he does not feed on my cheese, I find that I can spare a mite from it. Pray accept it; and if you enter the trifling donation in your book, please put it down as coming from a friend. I always make this stipulation on similar occasions.—I remain, dear madam, your obedient humble servant, CHARLES WATERTON.

Don Velasquez and the mysterious city of Iximaya.

Velasquez!—"tu, nisi ventis
Debes ludibrium, cave."

Did I not consider the "Illustrated Memoir" sold by Professors Anderson and Morris, as "the baseless fabric of a vision," I should fairly turn pale at the barbarous deeds of their hero Don Velasquez de San Salvador. His unprovoked irruption into a peaceful city, his ruthless slaughter of the unoffending natives, and his cruel robbery, in the persons of the two little Aztec children, who had been guarded there as a sacred treasure, are acts which fill the mind with horror. But to proceed with the adventures of this "man of family and education, though a trader in indigo," as the guardians inform us.

The ruthless rover. having gained his ends, had nothing now but to rid himself of whatever might jeopardite his "History of Iximaya," hereafter to be offered to a British Public.

Thus he tells us that his travelling comrade, Hammond, fell mortally wounded in Iximaya; the audacious Heurtis, betrayed by a sweetheart, was sacrificed to the angry gods; and the "faithful Antonio" disappeared for ever. The bloodhounds, too, although of "the purest Spanish breed," somehow or other could not trace the hero's footsteps. Aware that "to pass the gate was impossible," he and fifteen of his party most opportunely found ropes at hand. By these they descended the wall, forty feet high, during the night, and then swam across the moat. Clever and hardy adventurers!

Arrived at the place where the young traitor priest was waiting with the two Aztec children, our hero took possession of them. Another conflict ensued in which "many of the horsemen were slain." He then "reluctantly parted with most of his faithful Indians!" and secured his own retreat. But as the young priest Vaalpeor might possibly have been unpleasant evidence in times to come, he, most fortunately for Velasquez, took to his bed and died.

Now, I ask, what are we to call this "History of the Aztec Lilliputians;" dedicated to his Royal Highness Prince Albert, by Professors Anderson and Morris? One single word will suffice:—FICTION.

A remark or two here may not be out of place. Some forty years ago, I went in quest of Lake Parima. No mule or horse could possibly have gone with me. All was forest and fallen trees, and densely matted underwood in many places, and huge projecting rocks, and creeks, and swamps, and quagmires. These were real impediments to discovery.

Not so with Don Velasquez. He marched easily on to Iximaya, with his "*cavalcade of mules and baggage*"— proof quite sufficient that there was a road clear and open from the known country whence he started, to the very walls of the city. Then it follows, of consequence, that if the narrative of Velasquez be not a fiction, this road must have been open to other explorers, who would certainly have discovered Iximaya, which, on account of its situation, has been unknown to the world for three long centuries. My own opinion is that the Aztec Lilliputians are nothing more nor less than accidental dwarfs approaching to idiotcy.

The King of the Gorillas.

I have paid much attention to the economy of monkeys for more than half a century; and I have here a young gorilla, which I dissected after it had ceased to live.

On reading the account of M. du Chaillu's late lecture in Glasgow, I unhesitatingly pronounced it to be replete with the grossest errors and exaggerations, so far as apes were concerned.

In his book itself are found the most incompatible performances of his royal gorilla. Sometimes it is a tottering cripple; then, the strongest beast of the forest; occasionally, the determined foe of man; again, flying before his presence; never in the trees (its proper habitat), but always on the ground—at one time, roaring in phrenzy (apes never roar); at another time, punishing itself by beating its unoffending breast so furiously, that the sound of the strokes might be heard a mile off.

But all this is a trifle, when compared with the unprovoked murder of an unlucky negro by this ferocious monarch of the forest. This Proteus ape felled the unfortunate man to the ground, by a single blow from its unmerciful fore-leg; and then frightfully lacerated the abdomen, not with its teeth (the proper weapons), but with its nails, which are flat, and as impotent as our own for such a butchery. After this, with a rationality due only to man himself, the royal brute considered the gun as an instrument of mischief, and he actually smashed it to pieces with his fore-legs!

Thus, in these our latter times of wonder and credulity, M. du Chaillu offers to the British public a new monster of an animal—a kind of modern Centaur, half-monkey, half-man; dignified with the high sounding name of "king of the gorillas;" uniting in itself, with wondrous deficiency of proper adaptation, the discordant ingredients of strength and weaknesss, of courage and of cowardice, of slowness and agility, to which may be added a considerable portion of human intelligence.

In fine, let M. du Chaillu, and the learned naturalists who encourage him in his strange career of lecturing, say and think what they choose of the "king of the gorillas,"—*alias* the black ape of Western Africa, its true position on the page of natural history must certainly come to this, viz:—when on a tree it is a paragon of perfection in the eyes of an Omnipotent Creator, but when on the ground a bungled composition of nature. CHARLES WATERTON.

WALTON HALL, *October* 20, 1861.

The Gorilla.

There seems to be a strange inclination amongst a certain class of philosophers to lower man in the scale of creation and elevate the brute.

I stop not to investigate this wild and impious theory. Suffice it to remark that reason is found in man alone. Thus, your favourite dog has an ulcer on its foot. Place what plaster you may choose upon it, the animal will tear it off as often as applied. Not so with your child, who has attained the use of reason. You have taught it submission to the doctor's orders. It retains its plaster, and the sore gets well.

Ovid, sweet bard, full twenty hundred years ago, drew a correct line betwixt the rational and irrational world worthy of the Propaganda itself. In writing on the creation, this delightful poet says: "Sanctius his animal, mentisque capacius altæ, deerat adhuc, et quod dominare in cætera posset. Natus homo est."—"There was wanting a more perfect animal, one more capable of a lofty mind, and which could hold dominion over all the rest: man was born." And continues the poet, "whilst all other animals have their downward vision on the earth, man received a sublime countenance, and had orders to gaze on the heavens, and to lift up his erect visage to the skies"—

"Pronaque cum spectant animalia cætera terram,
Os homini sublime dedit, cælumque tueri,
Jussit et erectos ad cœlum tollere vultus."

Such testimony from a pagan poet ought to cause a blush on the cheeks of modern philosophers, who are ever on the look-out to counteract the arrangements of an all-wise Providence. Man only, then, has received the gift of reason; although we shall see in the sequel, that some of the monkey tribe (the ape, to wit) have been brought forward to share the noble boon of reason, with the lord of the creation itself.

I have already written largely on the monkey tribe. But as the gorilla has lately caused a considerable sensation among our learned naturalists, and has been said to possess qualities which it never could possess, and to perform feats which it never could perform, I intend to confine my remarks to this hitherto misrepresented and unoffending animal alone. America produces no apes throughout its whole extent. In the remote regions of the Old World we are to look for the abode of this harmless animal. There it exists, from the barren rock of Gibraltar, quite into the fertile forests on each side of the equator.

The eastern parts of Asia, and the western of Africa, are famous for their enormous apes. The one from Borneo is of a yellow-red colour, whilst that from the river Gaboon and its adjacent regions is black. There are none larger than these as yet discovered. The eastern ape is called the orang-outang. That from the west is known by the name of gorilla, probably a corruption from the Portuguese. Both these giant apes are magnificent in stature, mild in disposition, and shy on the approach of man.

In habits and propensities they perfectly agree. In anatomy they differ somewhat; but this difference can only interest those who find gratification in splitting a hair, and in producing words quite hard enough to set one's teeth on an edge.

If we are to put credence in that which modern naturalists have written concerning the gorilla, we must at once concede to it the reasoning powers of rational man; and allow it to possess an amount of strength far surpassing anything that Hercules himself ever did or could perform.

Fancy this supposed ferocious brute, although a frugiverous animal and noways addicted to touch animal food, occasionally waylaying man, and condemning him to immediate strangulation. We are gravely told, that "the natives of the Gaboon country hold the gorilla in great dread, fearing it even more than the lion itself, on account of its furtively murderous disposition. Concealed amongst he thick branches of the forest trees, the gorilla, itself unseen, watches the approach of the unsuspecting negro. Should he pass under the tree, woe betide him, for the gorilla lets down its terrible hind foot, grasps its victim round the throat, lifts him from the earth, and drops him on the ground dead."

I was not aware that any monkey in the whole world had a disposition furtively murderous, or could despatch an innocent victim so promptly and so effectually, especially when we consider the situation of the one, and the supposed aggressive qualities of the other, added to the locality of the hangman. The gorilla, like most of his family, is not famed for strength in the hinder parts, which seem to have been given him by nature, not to offend, but merely as ordinary props to assist the body amongst the trees, where the animal lives and dies. In the fore parts alone, in all monkies, enormous strength and powers of action are centred. Nevertheless, the gorilla, a timid and unoffending animal, prepares itself for battle and strangles a victim which it cannot eat. And how, let me ask, would the gorilla manage to conceal its huge body from the negro, amongst the thick branches of the forests, when we know, to a certainty, that be the forest ever so extensive, you never, by any chance, find the branches of the trees near the ground. It is only towards the top of the trees that thick branches are found.

Weneslaus Peters, the German Artist.

I visited Rome in the year of grace 1817. I took with me a beautiful red bird, called the scarlet cotinga, which I had prepared in the wilds of Guiana.

One morning, whilst I was in Canova's studio, and was showing him this bird, a man entered, and seeing it on my forefinger, he appeared, as it were, enraptured, and he earnestly begged that I would lend it him for a few days, in order that he might make a drawing of it for his grand picture of the Creation. I complied with his request; and he gave the bird a most conspicuous place on a tree.

Sometime after this he brought the scarlet cotinga to my lodgings, and with it an admirably well-executed British pointer dog in crayon, which he begged me to accept and to keep for his sake. It is now at Walton Hall; and the identical cotinga is on the staircase, just opposite to the large window. Peters died at Rome; and Pope Gregory XVI. bought his picture of the Creation, and placed it in the Vatican in the year 1836. CHARLES WATERTON.

MYDDELTON LODGE, *October* 2, 1861.

Notes on Sterne.—The Dead Ass.

"'And this,' said he, putting the remains of a crust into his wallet, 'should have been thy portion, hadst thou been alive to have shared it with me.'"

None but those who have lived in Spain, or read the works of Cervantes de Saavedra, can form a correct idea of the kindly feeling which exists between a Spanish peasant and his faithful ass. They may be said to love each other cordially.

But, here in England, this poor patient porter is seldom considered in any other light than that of a stubborn and neglected slave. We may see it picking up a scanty fare on the side of our Queen's highway, or chewing thistles in the neighbouring hedges; the sport of idle village urchins, who delight in adding pain to misery.

Often as I stroll along through lanes and skirts of towns, where this outcast son of labour has still a few roods of land to call his own, I exclaim: "Thou art so bare and full of wretchedness! famine is in thy cheeks, need and oppression stareth in thy eyes; upon thy back hangs ragged misery!"

In Spain, however, this patient carrier has comforts rarely found elsewhere. Good treatment there has altered his downcast looks, and shown us that mercy and a better kind of food have not been thrown away upon him.

Almost every labouring family in Spain can boast a favourite ass; and Cervantes has drawn with such a master-hand the affection which exists between them, that I never read the touching story of "The Dead Ass," in Sterne, without joining in sorrow with the "mourner," and lamenting the loss which he had sustained.

Cervantes tells us, so great was the anxiety of Sancho Panza for his only ass, that he got himself into an ugly scrape by requesting no less a personage than the duenna of the duke's castle to look after it, and see that it were well taken care of. The same Sancho, in writing to his wife, says, That he would not leave it behind him were he himself to be made Grand Turk. And when he was just about to abandon his government in the island of Barataria, he embraced his ass; then he gave it a kiss on the forehead, exclaiming: "Come to me, my friend and companion, the bearer of my troubles and my miseries; when I associated with thee, my only care was to repair thy trappings, and to nourish thy dear little body. Then, indeed happy were my hours, my days, and my years. But since I have lost sight of thee, and soared over the towers of ambition and pride, innumerable miseries have entered into my soul, 'mil miserias, mil trabajos, y quatro mil des associegoss.'" And afterwards, when Sancho and his ass had tumbled headlong into a deserted pit on their way to see the duke, he exclaimed, "When my remains and those of my dear ass shall have been discovered, the people will know at once who we are, as Sancho Panza was never known to be separated from his ass, nor his ass from Sancho Panza." In fine, having departed from his government, he told the duchess that he had no other company than that of his ass—"Sin otro a companamiento que el de su asno."

These, and innumerable other instances in Spanish writers, let us at once into the familiarity and friendly feeling which exist between the peasant of that country and his favourite ass—feelings never to be met with in our own enlightened realm of England.

The mourner in the affecting story of Sterne's "Dead Ass," had lost two fine boys ("the finest lads in all Germany") by the small-pox; and in order that his only remaining child might be spared, he had undertaken a long and dreary pilgrimage, from the farthest borders of Franconia to the shrine of St Jago in Spain. On his journey back to his own country, the poor ass died. It had been a patient partner of his pilgrimage. "It had ate the same bread with him all the way, and was unto him as a friend."

I can fancy that I see the sorrowing, way-worn traveller sitting on a stone bench at the door, and sighing bitterly as he gazed on the pannel and bridle of his departed ass. Poor mourner! he again took his crust of bread out of his wallet, and laid it on the bridle; "and then gave a deep sigh." But, alas! in vain. He had lost what would never be restored to him.

His faithful ass—his only comfort as he journeyed onwards—the help of his family, the plaything of his two dear children, now no more, lay dead on the side of the road in a foreign country, far from its native home. And as the mourner paid the last tribute to its memory, by arranging its accoutrements on the stone bench on which he sat, "he looked wistfully at the little arrangement he had made, and then gave a sigh." "La Fleur offered him money. The old man said he did not want it. It was not the value of the ass, but the loss of him. His ass had been the patient companion of his journey, and it had ate the same bread with him."

I, who passed two years in Andalusia, can enter fully into this sad exhibition of the mourner's grief. And when I am in a pensive mood, shut out in this sylvan retreat from the follies and anxieties of a delusive world around me, I turn to the story of the "Dead Ass." It does me good. I find nothing exaggerated in it; and in replacing the book on the table, I exclaim emphatically with the author of it, "Did we love each other as this poor soul loved his ass, it would be something."

February 5, 1862.

The Pythoness.

The public have been informed by the *London Review*, that "all hopes of hatching are at an end." I never had any hopes at all of the lately adopted midwifery. Success would have been at utter variance with the infallible economy of old Dame Nature herself.

Should some future pythoness be coaxed to circumvent her eggs with the intention of rendering them fruitful, I will ask permission (not having the fear of snakes before my eyes) to enter the lying-in apartment.

There I would introduce my hands amongst the folds of her hard and cold and scaly body; and if I found warmth and softness in it, analogous to what exists in regular incubators, then I would frankly own that I had been in error. I am quite of opinion, that had any infant serpent popped its head out of an egg, placed under the maternal care of our captive pythoness, it would have owed its existence to warm air and blankets, and to nothing else. The internal heat alone, greater than that of the male, is the sole incubating operator, for we are not informed that the pythoness possesses a single quality similar to those of animals which hatch their own eggs.

Even after the incubation is over, and the pythoness still possesses a greater amount of internal heat than that of the male serpent, it would not be conclusive. In our own species, heat varies considerably. Had I myself gone to the Arctic regions with Captain Ross, I am quite sure I should have perished for want of heat at the very time that he felt warm and comfortable. Again, had he accompanied me to the tropics, I fancy that he would have sweated away like a tallow-candle under the noonday sun, whilst I would have been quite at my ease.

I am not a believer in what is generally called a sun-stroke, or *coup de soleil.* To prove this, during several years I went out of the house, exactly at twelve o'clock, and stood bareheaded under the heliscentre ray, bareheaded in latitude six north of the equator, for a quarter of an hour. My companions were terrified for the result. I assured them that I apprehended no manner of danger.

April 13, 1862.

To Miss Ransome.

WALTON HALL, *April* 18, 1865.

Dear Madam,—As your courteous favour did not require an immediate acknowledgment, I put it aside, having pressing business on hand at the time. You may depend upon it the starlings never use the ear in procuring food. That they do so is an old story which has escaped from the dusty volumes of my old grandmother's library, collected there for the use of nurseries on dismal winter evenings. I live in the midst of starlings, having coaxed them to live in congregated numbers during even the summer months.

Yesterday I counted forty starlings on the lawn within six yards of the sitting-rooms windows. They were all hard at work like London aldermen on a haunch of venison. The worms had been induced by change of weather to approach the surface from below. I distinctly saw the starlings drawing them up without the least appearance that the ear had anything to do in the business. They seized the resisting worms with the end of their bills, just as your own dunghills would have done. I saw them distinctly at work, and of course I adhered to my unaltered opinion, that starlings never use the ear in order to acquire a supply of food.—I have the honour to be, madam, very respectfully, your obedient servant,

CHARLES WATERTON.

To Alfred Ellis, Esq.

WALTON HALL, *April* 3, 1861.

My dear Sir,—Many thanks for your most welcome letter. I see by its contents that we have both been in the same boat during the terrible frost. Still you have the advantage in your Fauna, inasmuch as that yours is on the increase, through the benevolence of your neighbours; whereas, on the contrary, mine is visibly on the decrease, owing to the folly of our landed proprietors here, who allow their keepers to poison, trap, and shoot everything that is not pheasant, hare, or partridge. Were it not for my park wall, every poor magpie, jay, and hawk would be exterminated. Lately, a Yankee traveller has been gulling our wise men with a most fabulous account of the gorilla, in a lecture before the Royal Geographical Society. One is mortified to think that such absurdities as the Yankee detailed should be swallowed so easily by our grave doctors in zoology, and declared to be sound information. An account of the lecture has appeared in the *Field* of March 2, 1861, and has been sent to me, I conjecture by Dr Buckland. As many parts of the lecture are at variance with what I have written on monkeys, I considered that I had a right to take up the pen. So I have given to the public my opinion of the lecture. It has appeared in the *Gardeners' Chronicle* of March 30th, p. 288. If you have not seen it, I can send it to you, and you can return it at your convenience. I have now a curiosity most probably unique throughout the whole world. It is the head of an old sheep, without horns from the cranium, but from its right ear, more than half way down, there proceeds a huge horn more than a foot in length, and six inches and a half in circumference at its thickest part. The ear itself is not in the least diseased. There are no bones in it whatever, nor any cartilage to connect it with the skull. In a word, it has only the support from the ear which the surrounding hairs have. The appearance of such a horn, on such a place, is an astounding phenomenon, and must put all our wise men to their last shifts to account for it. I long to show it to you. I need not say how happy I should be to see you here, especially when the cherry trees are in bloom, as they shortly will be.

To the Same.

SCARBOROUGH, *November* 6, 1861.

My dear Sir,—I am delighted at your success in protecting our poor birds, which are unmercifully slaughtered by every rascally gamekeeper in this neighbourhood. Already two fine cormorants took up their winter abode at Walton Hall, unfortunately they paid a visit to my neighbour's lake at Nostell. The keeper shot one of them and brought it over to me, thinking it a wonderfully fine prize. I told the fellow that his next exploit would be to hang his own mother. These two cormorants were so unconscious of danger, that they came within pistol shot of where I was standing. The pochards, the teal, the wigeons, the tufted ducks, and mallards, have made their appearance at my lake; and in the evenings we can count from sixty to seventy carrion crows assembled in the park for the night. Also several flocks of plovers. I have seen no fieldfares or redwings.

To the Same.

WALTON HALL, *January* 4, 1865.

My dear Sir,—Our pochards this year are absolutely as tame as the domestic ducks. After an exile of the large green red-headed woodpecker, this beautiful bird has returned, and goes to bed every night (I myself watch him) with three fine shrill notes, *in the* *starling's tower at the grotto!* My neighbour, alas! has killed the only bittern that has been seen here for seventy-five years. "What a world we live in, master," my keeper once said to me when I had refused to allow him to hang a poor cat which belonged to a harmless old woman in the village. My Fauna, unlike yours, does not thrive among our long chimney cannibals. We have scarcely any ringdoves this year.

To Norman Moore, Esq.

WALTON HALL, *March* 13, 1865.

My dear Norman,—Although we are in Lent, it does not follow that you should be in exile. My door is ever open to you. How do you come on in the badgering line across the channel? I have had a tremendous cold. I cannot remember ever to have had so severe a one. The rooks dare not continue at their newly-formed nests. The woodpecker visits us every night and morning. I wish that you had been here last week. A French giant paid us a morning visit. He stood exactly seven feet seven inches in his shoes. Your last letter was excellent.—Believe me, very truly yours,

CHARLES WATERTON.

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